

BIBLIOGRAPHY OF
SOIL SCIENCE

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BIBLIOGRAPHY of
SOIL SCIENCE, FERTILIZERS
and GENERAL AGRONOMY
1944-1947



COMMONWEALTH BUREAU OF SOIL SCIENCE
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PREFACE

This, the fifth volume of the Bibliography of Soil Science, includes the papers referenced in *Soils and Fertilizers*, Vols. 8-10 (1945-1947). A considerable number of papers published prior to 1944 has been included because, owing to delays caused by the war, these were not referenced at the Soil Bureau until some years after their publication.

Arrangement of the Entries

Each entry in the Bibliography consists of a classification number, followed by the authors' names, the title of the paper (in English), and the reference to its original publication (journal, volume, year of issue, pages). When a paper has been noted in an abstract journal, this is indicated after the original reference: e.g., *Hawaii. Plant. Rec.* 48, 1944 (83-92). E.S.R. 92 (176). A capital letter in square brackets following the reference denotes the language in which the paper is written; a small letter denotes that there is a summary in another language—e.g., [G.e.] = German with English summary. English [E.] is only indicated for papers published in journals usually written in other languages. It has not been thought necessary to give a list of the letters used to indicate language, as the meaning of the letters is usually self-evident.

The figures in the margin refer to the volume and number of *Soils and Fertilizers* in which an abstract of the paper will be found under the same number as in the Bibliography. Where no abstract or no further information about the paper beyond that given in the title was given in *Soils and Fertilizers* the marginal reference has been omitted. The order of the entries is according to their classification numbers, the significance of which is explained below.

"The "Universal Decimal Classification"

This system provides for any subject being represented by a symbol in the form of a decimal number. The whole of knowledge is regarded as unity, and is divided into ten great classes represented by decimal numbers, viz. :-

.0 General works	.5 Pure sciences
.1 Philosophy	.6 Applied sciences
.2 Theology	.7 Art
.3 Social sciences, Law	.8 Literature
.4 Philology	.9 History, Geography, Biography

Further division of these classes is made by extending the decimal, each extension representing a specialization of the preceding one :

.6 Applied sciences	.63144 Soil types
.63 Agriculture	.631445 Climatic soil types
.631 Agronomy	.6314457 Tropical soils
.6314 Soils	.63144573 Laterite

Although these numbers are decimals, it is customary to omit the first decimal point, and to insert a point between every three figures, e.g. the number for laterite is always written 631.445.73. This greatly facilitates reading, but it must always be remembered that the numbers are actually decimals, since entries are arranged in numerical decimal order, 631 succeeding 629 and preceding 632. The decimal arrangement has the advantage that the subjects classified can be greatly diversified, while at the same time closely related subjects occur consecutively in the bibliography.

Each decimal number represents a specific subject, but, more frequently than not, papers deal with the interrelations of two or more subjects. Various devices are used for expressing compound notions, the most common being the colon (:). For example, a paper on the fixation of soil phosphates (631.416.2) is numbered

631.416.2 : 631.414.3

and is placed in the bibliography between papers on soil

phosphates in relation to clay (631.414.2) and soil phosphates in relation to acidity (631.415.1), thus

631.416.2 Phosphates in soil

.....

631.416.2 : 631.414.2 Phosphates in relation to clay

631.416.2 : 631.414.3 Phosphate fixation

631.416.2 : 631.415.1 Phosphates in relation to acidity

.....

631.416.3 Trace elements (non-metallic) in soil.

An alternative symbol for expressing compound notions is the hyphen, which is used to save repetition where there is a common class number. The hyphen may only be used in certain specified places, for example, in the crops section where provision is made for any number in the 631 (agronomy) and 632 (plant-diseases) sections to be hyphenated to numbers in the 633 to 635 (economic-plants) sections. Thus the symbol for the nitrogenous manuring of apple trees is shortened from

634.11 : 631.84 to 634.11-1.84.
(apples) (nitrogen
fertilizers)

the hyphen replacing the first two common figures 63. Although the hyphen may at first be found somewhat confusing, consideration will show that the hyphenated form of expressing a compound idea is often more logical than the longer coloned form. This will become clear if we write 631.4 as 63-1.4, "soils used in agriculture (63)". Then 634.9-1.4 becomes "soils used in forestry (634.9)", or "forest soils", whereas the longer form 634.9 : 631.4 would strictly denote "forestry in relation to agricultural soils".

A stroke (/) is used when two or more consecutive subjects are dealt with at a time, to show that all the intermediate numbers are included. A paper on potassic (631.83), nitrogenous (631.84) and phosphatic (631.85) manures would be numbered 631.83 / 5, and one on the distribution of economic plants throughout the world, 633 / 5, to cover all the plants in each of the sections 633, 634 and 635.

Occasional use has also been made in the Bibliography of the so-called "analytical subdivisions" indicating general notions, such as colour, applicable to a series of subjects. Analytical subdivisions are distinguished by having the cypher 0 as the first figure, and they are suffixed to, and become a part of the number denoting the main subject : --

061.6 colour 631.4.061.6 soil colour

Arrangement of the Bibliography

The arrangement of the Bibliography follows the classification's general principle of proceeding in order of increasing specialization, so that papers on the whole subject are followed by those on its branches. The entries follow in numerical (decimal) order, then within any number chronologically by year and finally alphabetically by author under each year. Simple numbers precede colons and colons precede hyphens. The system will immediately be clear on reference to the Bibliography. A complete list of all the numbers used is given on pp. xiv-xxvii, but the main key to the Bibliography is the alphabetical Subject Index (pp. 387-451).

The Index to the Bibliography

Entries in the Index indicate where all the papers dealing with any particular subject are to be found. Thus "Soil reaction" 631.415.1 denotes that all papers of which soil reaction is the principal theme occur in the Bibliography under that number. These papers are classified either merely as 631.415.1, or as 631.415.1 followed by a colon and another number, e.g., 631.415.1:545.371 indicator (545.371) measurement of pH. There are, however, scattered through different parts of the Bibliography numerous papers in which the soil-reaction number comes second (after a colon or hyphen). Thus, "the influence of pH on base-exchange capacity" 631.414.3.03:631.415.1 is listed in the 631.414.3.03 section of the Bibliography, but the

existence of papers on this and related subjects, and the fact that they have a bearing on soil reaction are noted in the index as follows :

Soil reaction	631.415.1
.....	
base-exchange capacity and	631.414.3.03 :
.....	
potato scab and	633.491-2.4-

the indented entries indicating that papers on soil reaction in relation to base-exchange capacity and potato scab are listed under 631.414.3.03 : 631.415.1 and 633.491-2.4-1.415.1 respectively. The indented and main entries together comprise a complete index to every paper containing 631.415.1 anywhere in its classification number.

Certain numbers, particularly those outside the 63 section, never occur first in the classification symbols, but only after a colon. These are indexed in precisely the same way as the more frequently occurring agricultural and soil numbers, e.g.:-

Silica and silicates	546.284
in plants	631.811.9 :

No papers will be found under the simple number 546.284, but there are two under 631.811.9 : 546.284, to which the above entry in the Index refers. When three numbers are used in classifying a paper, the first two are treated as one for purposes of cross-indexing, e.g.—

Soil reaction	631.415.1
potato scab and	633.491-2.4-

the principle being to cross-index every number which occurs second or third to the number or numbers *preceding* it in the classification symbol.

Hyphenated numbers are indexed in the same way as if they were coloned, but it must be remembered that the first two figures in the second of two hyphenated numbers are omitted when the symbol is printed.

In order to economize space, hyphenated numbers compounded of the crop sections (633/5) and any of the following sections

- 631.4 (soils) e.g. 633.72-1.4—tea soils,
 631.5 (culture) e.g. 633.491-1.5—potato culture,
 631.81 (fertilizers) e.g. 633.11-1.81—fertilizers for wheat,

are not specifically referred to in the Index, since almost every crop number is hyphenated to -1.4, -1.5 and -1.81. These sections all represent very general subjects, and the user interested in soils, culture or fertilizers for a particular crop need only ascertain the number assigned to the crop, and can refer immediately to the corresponding hyphenated part of the crop section in the Bibliography.

Where many, but not all, crop numbers are hyphenated to certain numbers—e.g. to -1.83, -1.84 and -1.85 (K, N and P fertilizers)—space is saved in the Index by not giving each crop a separate line, but merely listing the crop numbers, thus—

Phosphatic fertilizers 631.85

.....

Crops : 633.11-, 633.2 3-, 635-, 635.656-, 635.939.98-
 indicating that references to phosphate fertilizing will be found under 633.11-1.85, 633.2,3-1.85, etc.

The subjects listed in the Index have been expressed in as brief and general a form as possible, since one entry frequently covers several papers dealing with the same subject from different standpoints.

The Geographical Bibliography

Papers with an essentially local interest, e.g., soil surveys, are listed in a separate "geographical" bibliography, following the main one. The ordinary classification numbers of these papers are preceded by a geographical number, enclosed in brackets, indicating the place to which each

paper refers, and the papers are arranged primarily according to these numbers and afterwards in the order followed in the main bibliography. A list of geographical numbers is given at the end of the Numerical Index, and they are also included in the Subject Index under the places to which they refer. Papers in the Geographical Bibliography are shown in the Index by the letter (G), followed by the appropriate geographical numbers, e.g.,

Grassland 633.2.03

..... (G) (42), (44), (485), (548.7), (669), etc.

indicates that besides the references to grassland in the Main Bibliography, others of local interest occur in the Geographical Bibliography under (42)633.2.03—"grassland in England"—etc.

INDEX TO CLASSIFICATION NUMBERS

ANALYTICAL NUMBERS

005	Apparatus	061.6	Colour
016	Bibliographies	(083.72)	Nomenclature

14 PHILOSOPHY

149.918.6	Anthroposophy	
-----------	---------------	--

3 SOCIOLOGY

312	Population	355.01	War
33	Economics	355.04	Bombing
34	Legislation		

52/3 ASTRONOMY. PHYSICS

525.5	Seasons	537.531	X-rays
532.712	Osmotic pressure	.533	Electron microscope
535	Optics		
535.21	Light	539.16	Radioactivity
.61	Ultraviolet light	.211	Surface
.82	Microscopy	.214	Plasticity
		.215	Granulation
536.666	Heat of wetting	.41	Cohesion

54 CHEMISTRY

541.1	Physical chemistry	546	Inorganic chemistry
541.12.034.6	Vapour pressure	546.135	Potassium chlorate
.128	Catalysis	.16	Fluorine
.134.5	Oxidation-reduction potential	.172.5	Nitrous oxide
.144.7	Photosynthesis	.173	Nitrites
544/5	Analytical chemistry	.175	Nitric acid
544.6	Spectrographic analysis	.19	Arsenic
545	Analysis (of fertilizers)	.22	Sulphur
545.371	Indicators	.223.2-35	Sodium thio-sulphate
.372	Electrodes	.224	Sulphur dioxide
		.226	Sulphuric acid
		.23	Selenium

INDEX TO CLASSIFICATION NUMBERS

546.267	Cyanides	547.21	Hydrocarbons (aliphatic)
.27	Boron		
.284	Silica and silicates	.211	Methane
.331.31	Sodium chloride	.14.8	Chloropicrin
.332.64	Sodium carbonate	.458	Polysaccharides
.35	Rubidium	.458.82	Methyl cellulose
.42	Strontium	.458.84	Lignin
.47	Zinc	.474.5	Alginic acid
.56	Copper	.82	Steroids
.59	Gold	.96	Proteins
.711	Manganese	548.5	Efflorescence
.72	Iron	549	Mineralogy
.73	Cobalt	549.1	Mineralogical analysis
.77	Molybdenum		
.815	Lead	.67	Zeolite, bentonite
.841	Thorium	.753.1	Hydroxyapatite
547	Organic chemistry		

55 GEOLOGY

551	Physical geography	551.577	Rainfall
		.578.4	Snow
551.311.31	Dunes	.583.7	Climatic changes
.311.33	Loess	552	Petrography
.311.7	Volcanic ashes	552.321.1	Granite
.41	Relief. Slope. Topography	.323	Volcanic rocks
.432	Mountains	.323.5	Basalt
.48	Run-off	.47	Serpentine
551.5	Meteorology. Climatology	553	Economic geology
551.51	Air	553.72	Salt water
.55	Wind	.97	Peat
		.983	Bitumen

57 BIOLOGY

576.809.6	Bacteriophage	577.158.7	Catalases
576.809.7	Microbial antagonism. Antibiotics	.16	Vitamins
577.15.025.3	Enzyme poisons	.472	Hydrobiology
577.15.04	Plant-growth substances	.8	Sex

58/9 BOTANY. ZOOLOGY

581.032.3	Wilting point of plants	581.116	Transpiration
581.1	Plant physiology	.13	Assimilation
		.143.26	Photoperiodis
		.144.2	Roots

INDEX TO CLASSIFICATION NUMBERS

581.144.4	Leaves	582.29	Lichens
.192	Composition of plants. Quality of crops	591.157	Melanism
.192.6	Salt tolerance	591.9	Geographical distribution of animals
.5	Ecology. Vegetation	594.3	Slugs
582.28	Fairy rings	599.4	Bats

616 PATHOLOGY

616.936	Malaria
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619 ANIMAL DISEASES

62 ENGINEERING

620.19	Corrosion	627.51	Flood control
625.1/6	Railways	629.135.2	Aeroplanes
625.7/8	Roads		

63 AGRICULTURE

63:551.5	Agricultural meteorology	631.312.54	Subsoiling machinery
631.3	Agricultural equipment	.331	Seed sowers
631.3:531.781		.333	Fertilizer distributors
631.312	Dynamometer	.347.2	Irrigation equipment
.312.5	Ploughs	.347.24	Sprinkling-irrigation equipment
	Stubble-mulching implements	.37	Tractors

631.4 SOILS

631.4:551.432	Mountain soils	631.414.3	Absorption. Base exchange
631.4:551.8	Fossil soils	.3.03	Base-exchange capacity
631.4:551.481	Water soils	.323	Exchangeable anions
631.411.2	Calcareous soils	.324	Exchangeable bases
631.411.4	Organic soils	631.415.1	Soil reaction. pH
631.413	Electro-chemical properties	631.415.1:631.414.3	Exchange acidity
631.413.1	Buffering	631.415.3	Saline and alkaline soils
631.414	Colloidal properties	.36	Reclamation of alkaline soils
631.414.05	Dispersion		
.1	Capillarity		
.2	Clay. Colloid complex		

INDEX TO CLASSIFICATION NUMBERS

- | | | | |
|-----------------|---|------------|---|
| 631.415.7 | Indicator plants | 631.42.005 | Soil sampler |
| 631.416 | Inorganic chemistry and composition of soil | 631.421 | Field experiments. Statistical methods |
| 631.416.1 | Nitrogen | 631.422 | Qualitative soil analysis. Rapid chemical methods |
| .11 | Ammonia | 631.422.4 | Proximate organic analysis |
| .12 | Nitrite | 631.423 | Quantitative soil analysis |
| .13 | Nitrate | 631.423.3 | Inorganic analysis |
| .2 | Phosphorus | .4 | Organic analysis |
| .3 | Trace elements (non-metallic) | .5 | Determination of salts |
| .313 | Chlorine | .6 | Determination of carbonates |
| .315 | Iodine | .7 | Determination of exchangeable bases |
| .316 | Fluorine | 631.425 | Physical analysis |
| .319 | Arsenic | 631.425.1 | Determination of density |
| .322 | Sulphur | .22 | Determination of soil moisture |
| .323 | Selenium | .23 | Determination of permeability |
| .327 | Boron | .24 | Determination of moisture capacity |
| .328.4 | Silica | .24.005 | Tensiometer |
| .4 | Potassium | .3 | Analysis of soil air |
| .7/8 | Calcium-magnesium ratio | .4 | Aggregate analysis |
| .7 | Calcium | .5 | Mechanical analysis |
| .8 | Trace elements (metallic) | .6 | Measurement of soil temperature |
| .834 | Lithium | .66 | Thermal analysis |
| .835 | Rubidium | .7 | Determination of electrical properties |
| .846 | Magnesium | 631.427 | Biological analysis |
| .847 | Zinc | 631.427.2 | Microbiological analysis |
| .849 | Mercury | .3 | Determination of plant nutrients by plants |
| .856 | Copper | | Foliar diagnosis |
| .862.1 | Aluminium | | |
| .865 | Rare earths | | |
| .871.1 | Manganese | | |
| .872 | Iron | | |
| .873 | Cobalt | | |
| .874 | Nickel | | |
| .876 | Chromium | | |
| .877 | Molybdenum | | |
| .881.5 | Lead | | |
| .882.1 | Titanium | | |
| 631.417 | Organic matter. Organic chemistry of soil | | |
| 631.417.2 | Humus | | |
| .4 | Carbon-nitrogen ratio | | |
| 631.418 | Soil solution | | |
| 631.42 | Experimental methods and technique. Pot Experiments | | |
| 631.42 : 535.82 | Micropedology | | |

INDEX TO CLASSIFICATION NUMBERS

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|------------------|--|---------------------|--|
| 631.472.4 | Determination of plant nutrients by micro-organisms. Mitscherlich and Neubauer methods | 631.437.36 | Electroanalysis |
| | | .362 | Electrosmosis |
| 631.43 | Physical properties of soil | 631.44 | Soil classification. Soil types |
| 631.43 : 620.154 | Instruments for measuring compaction | 631.445 | Climatic soil types |
| 631.431 | Density. Specific gravity. Shrinkage | 631.445.11 | Arctic soils |
| 631.432 | Ground water | .13 | Heath soils |
| 631.432.2 | Soil moisture | .14 | Fen. Low-moor soils |
| .21 | Drying of soils. | .2 | Podzol |
| | Evaporation | .3 | Brown earth. Brown forest soil |
| .3 | Permeability. Mobility of soil constituents. Leaching | .4 | Chernozem |
| .4 | Water - holding capacity of soil. pF. Moisture equivalent. Sticky point | .5 | Arid soils |
| .5 | Hygroscopicity | .51 | Chestnut coloured soils |
| 631.433 | Soil air | .52 | Solonchak |
| 631.433.1 | Porosity. Aeration | .53 | Solonets. Takyr |
| .2 | Anaerobic conditions | .54 | Solod |
| .3 | Respiration | .55 | Desert soils |
| 631.434 | Soil structure | .6 | Terra rossa |
| 631.435 | Mechanical composition of soil. Texture | .7 | Tropical and sub-tropical soils |
| 631.435.1 | Sandy soils | .71 | Terra roxa |
| .3 | Loams | .72 | Black cotton soil |
| .4 | Clay soils | .73 | Laterite |
| 631.436 | Soil temperature | .9 | Rendzina. Smon-itsa |
| 631.436.5 | Effect of heat on soil | 631.452 | Fertility |
| .6 | Effect of frost on soil | 631.453 | Toxicity in soils |
| 631.437 | Electrical properties of soil | 631.454 | Nutrient deficiency in soils |
| 631.437.226.1 | Dielectric constant. Capacitance | 631.458 | Soil exhaustion |
| .31 | Conductivity | 631.459 | Erosion |
| | | 631.459 : 551.55 | Wind erosion |
| | | 631.459 : 631.61 | Soil conservation |
| | | 631.46 | Soil micro-biology |
| | | 631.461 | Micro-organisms |
| | | 631.461 : 581.144.2 | Rhizosphere |
| | | 631.461.1/3 | Decomposition of organic matter |
| | | .1 | Humification |
| | | .3 | Nitrification |
| | | .4 | Denitrification |
| | | .5 | Nitrogen fixation |
| | | .51 | Non-symbiotic nitrogen fixation. Azotobacter |

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631.461.52	Symbiotic nitrogen fixation. Nodule bacteria	631.466.2	Actinomycetes
.61	Cellulose - decomposing bacteria. Myxobacteria	.3	Algae
.71	Sulphur bacteria	631.467.1	Protozoa
.72	Iron bacteria	631.468	Macrofauna
.74	Miscellaneous micro-organisms, i.e., Proactinomyces, <i>Agrobacterium</i> , <i>Bacillus Polymyxa</i> , <i>Clostridium</i> and thermophilic bacteria	631.47	Land classification, utilization and survey
631.462	Soil sterilization	631.471	Mapping and surveying
631.466.1	Fungi. Mycorrhizae	.472	Soil profile
		631.472.005	Preparation of soil monoliths
		631.473	Soil surveys
		631.48	Soil formation
		631.48 : 631.432	Gley
		631.482	Alluvial soils
		631.483	Weathering

631.5 CULTURAL OPERATIONS

631.51	Cultivation and tillage	631.547.6	Ripening
631.512	Ploughing	631.548	Water culture.
.513	Explosives. Blasting		Soilless cultivation. Hydroponics
.516	Hoing	631.557	Yields
517	Mechanical cultivation. Rotary cultivation	631.58	Agricultural systems
631.53	Plant propagation	631.581	Fallowing
631.531	Seeds. Sowing	631.582	Rotations
631.531 : 629.135.2		631.582 : 631.459	Strip cropping
631.54	Aerial sowing	.584	Catch crops. Cover crops. Mixed crops
	Hole planting system	.586	Dry farming
.543.1	Shading	.588.1	Electricity in agriculture
.544.3	Hot beds	631.589	Burning as a cultivation system.
.544.7	Mulching. Soil protection		Shifting cultivation
.547.1	Germination		
.2	Plant growth		
.4	Flowering		

631.6 AGRICULTURAL ENGINEERING

631.61	Land reclamation	631.613	Contour cultivation. Terracing
.611	Reclamation of grassland	.615	Reclamation of waste land
.612	Reclamation of dunes and dumps	.616	Marine reclamation
		631.62	Drainage

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631.62 : 626.862.6	Mole drainage	631.67 : 626.862.6	Mole-furrow irri-
.621	Drainage water		gation
.622	Lysimetry	.671	Irrigation water
631.67	Irrigation		

631.8 FERTILIZERS AND MANURES

631.81	Use of fertilizers	631.83	Potassium fer-
631.811	Plant nutrition		tillizers
631.811.1	Nitrogen	631.831	Ashes
.2	Phosphorus	.832	Potassium
.3	Potassium		chloride
.4	Calcium. Lime	.833.2	Potassium
	requirement		sulphate
.5	Sodium	.836	Potassium silicate
.6	Magnesium	.839	Miscellaneous
.7	Sulphur		potassium ferti-
.8	Chlorine		lizers
.9	Trace elements	631.84	Nitrogen ferti-
.91	Water		lizers
.92	Carbon dioxide	631.84 : 546.171.4	Nitrates
631.812	Production and	631.841	Ammoniacal ferti-
	storage of ferti-		lizers
✓ 631.813	Properties and	.1	Ammonium sul-
	reactions of		phate
	fertilizers	.5	Cyanamide
631.814	Loss of fertilizing	.6	Dicyanodiamide
	principles	.7	Urea
631.815	Residual value	.8	Ammonia liquor
631.816	Application of	631.842	Nitrate fertilizers
	fertilizers	.2	Potassium nitrate
631.816.2	Time of appli-	.3	Sodium nitrate
	cation	.4	Ammonium nit-
.23	Top-dressing		rate
.3	Methods of appli-	.6	Calcium nitrate
	cation. Place-	631.847.2	Bacterial inocu-
	ment		lation
.34	Injection. Ferti-	631.85	Phosphorus fer-
	lizer lance		tillizers
631.82	Mineral amend-	631.85 : 546.185.33	Metaphosphate
	ments other	631.85 : 546.186.35	Orthophosphoric
	than N, P, K		acid
631.821 : 669.16	Blast-furnace slag	631.851	Rock phosphate.
631.821.1	Lime		Phosphorite
.2	Gypsum	.852	Bone meal
.822	Marl, sand, clay,	.853	Basic slag
	etc.	.854	Guano
.824	Magnesium ferti-	.855	Superphosphate
	lizers	631.855 : 66.095.1	Alkylation phos-
.828	Minor fertilizer		phate
	constituents		

INDEX TO CLASSIFICATION NUMBERS

631.856	Dicalcium phosphate	631.863	Night soil
.857	Colloidal phosphate	.87	Vegetable organic manures
.858	Calcined phosphates. Reno. Tessenphos. Thermophosphates. Silico phosphate	.871	Plant residues
.859	Iron and aluminium phosphates	.873	Seaweed
.859.1	Ammoniated phosphates	.874	Green manure
631.86/7	Organic manures	.875	Composts
631.86	Farmyard manure	.876	Oil cakes. Sawdust
631.86 : 595.728	Locust manure	631.876 : 633.51	Cottonseed meal
631.86 : 636.5	Poultry manure	.876.2	Distillery waste
631.862	Liquid manure	.876.9	Industrial residues
		.877	Waste waters
		.878	Coal. Peat
		.879.1	Town refuse
		.879.2	Sewage
		631.893	Mixed and compound fertilizers

632 PLANT DISEASES AND PROTECTION

632.111	Frost injury	632.589.3	Hydrocotyle
.112	Drought injury	.591.24	Heather (<i>Calluna vulgaris</i>)
.181	Flood injury	.594.2	Bindweed (<i>Convolvulus arvensis</i>)
.183	Wind injury. Lodging	.595.14	Horse nettle (<i>Solanum elaeagnifolium</i>)
.184	Smoke injury	.595.16	Witchweed (<i>Striga</i>)
.187	Fire injury	.599.8	Burroweed. Dandelion. Sagebrush. <i>Senecio</i> . Skeleton weed. Starbur. Thistle. Yarrow
.19	Deficiency diseases. Chlorosis	632.651.6	Earthworms
632.2	Nematode diseases	632.7	Insect pests. Entomology
632.3	Bacterial diseases	.732	Termites
632.4	Fungal diseases	.765	Wireworms
632.51	Weeds	632.8	Virus diseases
.536	Bracken	632.9	Plant protection
.554.21	Crabgrass. Johnson grass. Kans grass. Quack grass.	.951	Insecticides
.554.22	Nut grass (<i>Cyperus rotundus</i>)	.22	Carbon disulphide
.556.7	Water hyacinth	.23	Arsenates
.568.32	Whitetop	632.953	Soil disinfectants
.575.7	Leafy spurge (<i>Euphorbia Esula</i>)		
.582.4	Klamath weed (<i>Hypericum perforatum</i>)		

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632.954	Weedkillers	632.954 : 631.589	
632.954 : 577.15.04	Hormone weed-killers		Flame cultivation
		632.954.6	Cyanamide
		.8	Sodium chlorate

633 CULTIVATED CROPS

633.1	Cereals	633.287	Blue grama grass.
633.11	Wheat		Rhodes grass
.12	Buckwheat		(<i>Chloris gayana</i>).
.13	Oats		Rice grass (<i>Spartina Townsendii</i>)
.14	Rye		Lovegrass (<i>Eragrostis</i> spp.)
.15	Maize	.288	Pampas grass
.16	Barley		Matgrass (<i>Nardus stricta</i>)
.17	Millet, sorghum, kaffir corn	.289	Cactus
.18	Rice		633.3 Legumes
.19	Adlay (<i>Coix lacryma-jobi</i>)	.292	Lucerne (<i>Medicago sativa</i>)
633.2	Grasses	633.31	Clovers
633.2.03	Grassland	.32	Red clover (<i>Trifolium pratense</i>)
.21	Bluegrass, <i>Poa</i>	.321	Ladino clover
.262	Brome grass	.322	(<i>T. repens</i> L. var. <i>latum</i>)
.263	Rye grass	.325	Strawberry clover
.264	Fescue		(<i>T. resupinatum</i>)
.267	<i>Phalaris tuberosa</i>	.326	Subterranean clover (<i>T. subterraneum</i>)
.28	Wild rye grass (<i>Elymus canadensis</i>)	.327	Crimson clover
.281	Manila grass (<i>Zoysia matrella</i>)	.329	Berseem (<i>T. alexandrinum</i>)
.282	Sudan grass	.33	Cowpea (<i>Vigna</i>)
.283	Elephant grass, Napier grass (<i>Pennisetum purpureum</i>).	.34	Soybean
	Guinea grass (<i>Panicum maximum</i>).	.35	Vetch
	Kikuyu grass (<i>Pennisetum clandestinum</i>).	.361	Sainfoin (<i>Ononis chis saliva</i>)
	Nile grass (<i>Acroceras macrum</i>)	.364	Lespedeza
.284	Perennial veldt grass (<i>Ehrharta calycina</i>)	.365	Kaimi Spanish clover (<i>Desmodium canum</i>)
.285	Esparto	.366	Sweet clover
.286	<i>Danthonia semi-annularis</i>	.367	Lupin
		.372	Broom (<i>Cytisus</i>).
			Spanish broom. (<i>Spartium junceum</i> L.)

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633.375	<i>Astragalus</i> . Black locust (<i>Robinia</i>). Devils' shoe-string (<i>Tephrosia virginiana</i>)	633.77	Maté
.377	Derris	.78	Chicory
.378	Chickpea (<i>Cicer</i>). Yam bean (<i>Pachyrhizus</i>)	.79	Hops
.379	Kudzu (<i>Pueraria</i>)	633.8	Aromatic, medicinal and oil plants
633.4	Root crops	633.812.677.3	Bay-rum tree (<i>Pimenta racemosa</i>)
633.41	Beet	.812.756	Clary (<i>Salvia sclarea</i> L.)
.42	Turnip, rape, swede	.821	Vanilla
.426	Mangold	.822	Peppermint
.491	Potato	.825	Ginger
.492	Sweet potato	.83	Spices
.494	Jerusalem artichoke (<i>Helianthus</i>)	.831	Pimento
633.5	Fibre crops	.832	Clove
633.51	Cotton	.841	Pan (<i>Piper Belle</i>)
.52	Flax	.842	Paprika
.522	Hemp	.844	Mustard
.523	Jute✓	.85	Oil plants
.524.1	Sunn hemp (<i>Crotalaria</i>)	.853.55	Castor-oil plant (<i>Ricinus</i>)
.524.3	Kenaf (<i>Hibiscus cannabinus</i>)	.853.74	Sesamum
.524.33	<i>Urena lobata</i>	.854.56	Tung (<i>Aleurites</i>)
.524.635.3	Nettle (<i>Urtica</i>)	.854.78	Sunflower
.525.1	Ramie	.854.797	Safflower
.526.22	Henequen	.855.34	Oil palm
.526.23	Sisal	.855.372	Babassu
.526.41	<i>Phormium tenax</i>	.855.74	Shea (<i>Butyrospermum parkii</i>)
.526.43	Yucca	.861.3	Turmeric
.584.3	Willow	.862.4	Indigo
.584.5	Bamboo	.871	Sumac
633.6	Sugar and starch plants	.879	Babul tree. (<i>Acacia arabica</i>). Tanning plants
633.61	Sugar cane	✓88	Medicinal plants
.63	Sugar beet	.881.1	<i>Strophanthus</i>
.682	Sweet cassava, yuca (<i>Manihot aipi</i> Pohl)	.881.15	<i>Digitalis</i>
.685	Yam	.883.85	Areca nut
633.7	Stimulants	.885.1	Cinchona
633.71	Tobacco	.887.791	Pyrethrum
.72	Tea	.888.41	<i>Atropa belladonna</i>
.73	Coffee	.888.43	<i>Duboisia</i>
.74	Cacao		<i>Hyoscyamus</i>
.75	Poppy	633.91	Rubber plants
		633.912	" <i>Hevea</i>
		.913.1	<i>Fuffumia</i>
		.913.31	Guayule (<i>Parthenium argentatum</i>)

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633.913.32	Kok-saghyz (<i>Taraxacum</i>)	633.913.421	Milkweed (<i>Asclepias syriaca</i>)
.913.36	Tau-saghyz (<i>Scorzonera</i>)	.913.43	<i>Cryptostegia</i>

634 ORCHARDS. FRUIT

634.1	Pome fruits	634.57	Queensland nut (<i>Macadamia ternifolia</i>)
634.11	Apple		
.13	Pear	.573	Cashew nut (<i>Anacardium occidentale</i>)
634.2	Stone fruits	.58	Groundnut. Pea- nut (<i>Arachis</i>)
.21	Apricot		
.22	Plum. Prune	634.6	Palm fruits
.23	Cherry	634.61	Coconut
.25	Peach	.62	Date palm
634.3	Citrus	.63	Olive
634.31	Orange	.651	Papaya
.323	Grapefruit	.653	Avocado
.334	Lemon	634.7	Bush fruits
.38	Mulberry	634.711	Raspberry
634.4	Small fruits	.714	Loganberry
634.41	Custard apple (<i>Anona</i>)	.715	Blackberry
.42	Feijoa (<i>Feijoa sellowiana</i> Berg.)	.723	Black currant
.441	Mango	.73	Blueberry, bil- berry
.451	Kaki (<i>Diospyros kaki</i>)	.75	Strawberry
.471	Mangosteen (<i>Garcinia mangostana</i> L.)	.76	Cranberry
634.5	Nuts	.771	Banana
634.51	Walnut	.774	Pineapple
.521	Pecan	.776	Passion fruit
.55	Almond	634.8	Viticulture

634.9 FORESTRY

634.9-1.4	Forest soils	634.972.1	Oak
634.928.53	Tree growth	.2	Maple
634.94	Forest types	.3	Poplar
634.95	Silviculture	.4	Chestnut
634.952.2	Clear cutting	.5	Beech
.953.6	Shade trees. Windbreaks. Shelter belts	.6	Birch
.956.4	Forest nurseries	.8	Elm
.957	Afforestation	.973.662	Alder
634.972/3	Deciduous trees. Hardwoods	.797	Balsa (<i>Ochroma</i>)
		.949	Teak
		634.975	Conifers
		634.989.84	Forest litter

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635 VEGETABLES

635.128	Celeriac	635.52	Lettuce
.13	Carrot	.53	Celery
.136	Chervil (<i>Scandix</i>	.61	Melon
	<i>cerefolium</i>)	.624	Pumpkin
.25	Onion	.627	Chayote, Choko
.31	Asparagus		(<i>Sechium edule</i>)
.32	Globe artichoke	.63	Cucumber
.34	Cabbage	.64	Tomato
.35	Cauliflower	.65	Beans
.41	Spinach	.656	Peas
.48	Rhubarb	.8	Mushroom

635.9 ORNAMENTAL HORTICULTURE

635.935.724	Narcissus	635.939.516	Antirrhinum
.935.79	Gladiolus. Iris	.939.98	Chrysanthemum
.937.138	Sweet pea	.944	Tulip
.937.34	Rose	.964	Lawns. Turf
.939.124	Azalea. Rhodo-	.977.261	Box tree
	dendron	.98	Greenhouse plants

636/8 LIVESTOCK AND PRODUCTS

636.084.22	Grazing	636.39	Goats
636.086.25	Straw	636.5	Poultry
636.1	Horses	637.1	Milk
636.2	Cattle	638.16	Honey
636.3	Sheep		

66/93 MISCELLANEOUS

663.12	Yeast	778.35	Aerial photo-
664.15	Molasses		graphy
668.12	Soap	902.6	Archaeology
675	Leather	93	History
677.31	Wool		

GEOGRAPHICAL NUMBERS

(4) EUROPE

(411)	Scotland	(458.2)	Malta
(416)	Northern Ireland	(46)	Spain
(417)	Eire	(469)	Portugal
(42)	England	(47)	Russia
(43)	Germany	(471)	Finland
(436)	Austria	(474.3)	Latvia
(437)	Czechoslovakia	(477)	South Russia.
(44)	France		Ruthenia.
(45)	Italy		Ukraine

INDEX TO CLASSIFICATION NUMBERS

(481)	Norway	(493)	Belgium
(485)	Sweden	(494)	Switzerland
(489)	Denmark	(495)	Greece
(491)	Iceland	(499)	Greek Archipelago,
(492)	Holland		Aegean Islands

(5) ASIA

(51)	China	(55)	Iran
(517)	Mongolia	(56)	Turkey
(518)	Manchuria	(569)	Palestine
(52)	Japan	(57)	Siberia
(529.1)	Formosa (Taiwan)	(581)	Afghanistan
(54)	India	(584)	Central Asia
(548.7)	Ceylon	(593)	Siam
(55/56)	Middle East		

(6) AFRICA

(61)	North Africa	(672)	French Equatorial
(611)	Tunisia		Africa
(612)	Libya	(675)	Congo
(62)	Egypt	(676)	East Africa
(624)	Anglo-Egyptian	(676.1)	Uganda
	Sudan	(676.2/9)	Kenya
(63)	Abyssinia	(677)	Somaland
(64)	Morocco	(678)	Tanganyika
(649)	Canary Islands	(68.01)	Union of South
(65)	Algeria		Africa
(66)	North Central	(686)	Basutoland
	Africa	(689.1)	Southern
(661)	French West		Rhodesia
	Africa	(689.4)	Northern
(666)	Liberia		Rhodesia
(667)	Gold Coast	(689.7)	Nyasaland
(669)	Nigeria	(691)	Madagascar
(671)	Cameroons	(698.2)	Mauritius

(7) NORTH AND CENTRAL AMERICA

(71)	Canada	(728.2)	British Honduras
(711)	British Columbia	(728.5)	Nicaragua
(712)	Prairie Provinces	(728.6)	Costa Rica
(712.3)	Alberta	(729)	West Indies
(712.4)	Saskatchewan	(729.1)	Cuba
(713)	Ontario	(729.2)	Jamaica
(714)	Quebec	(729.4)	Haiti
(715)	New Brunswick	(729.5)	Puerto Rico
(716)	Nova Scotia	(729.8)	Barbados, St.
(72)	Mexico		Lucia, Trinidad
(728)	Central America		and Tobago
(728.1)	Guatemala	(729.9)	Bermuda

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(73)	United States	(77)	North - central
(74)	North-eastern		United States
	United States		(Iowa, Indiana,
	(Rhode Island,		Missouri, Michi-
	New York,		gan, Minnesota,
	Maine, New	(78)	Ohio, Wisconsin)
	Jersey)		Middle - western
(75)	South-eastern		United States
	United States		(Arizona, N. and
	(Florida, Vir-		S. Dakota, Kan-
	ginia, N. and S.		sas, Nebraska,
	Carolina,		Colorado, New
	Georgia)		Mexico)
(76)	Southern United	(79)	Western United
	States (Tennes-		States (Cali-
	see, Oklahoma,		fornia, Idaho,
	Mississippi,		Montana, Ore-
	Texas, Alabama)		gon, Utah,
			Washington)
		(798)	Alaska

(8) SOUTH AMERICA

(81)	Brazil	(86)	Colombia
(82)	Argentina	(866)	Ecuador
(83)	Chile	(87)	Venezuela
(84)	Bolivia	(881)	British Guiana
(85)	Peru	(899)	Uruguay

(9) OCEANIA

(914)	Philippine	(941)	Western Australia
	Islands	(942)	South Australia
(92)	Netherlands	(943)	Queensland
	Indies	(944)	New South Wales
(931)	New Zealand	(945)	Victoria
(934)	New Hebrides	(961)	Fiji
(94)	Australia	(967.2)	Guam

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- (943)634.776-1.5—Barnes, H. Passion fruit growing in Queensland. *Queensland Agric. J.* 60, 1945 (17-41). Biol. Abs. 19 (1887).
- (943)635.65-1.5—Kerr, J. A. Canning or navy bean production in Queensland. *Queensland Agric. J.* 63, 1946 (197-201). X, 2
- (944)631.4—Smith, R. Soils of the Berriquin Irrigation District, N.S.W. *Aust. Coun. Sci. Indust. Res. Bull.* No. 189, 1945, pp. 55.
- (944)631.4—Parbery, N. H. Black headland soils of the south coast. Unusual process of formation. *Agric. Gaz. N.S.W.* 58, 1947 (123-125). X, 4
- (944)631.459—Kaleski, L. G. The erosion survey of N.S.W. (Eastern and Central Divisions). *J. Soil Conserv. Serv. N.S.W.* 1, 1945 (12-20).
- (944)631.459 : 631.61—Kaleski, L. G. Soil conservation in the Menangle district. *J. Soil Conserv. Serv. N.S.W.* 1, 1945 (43-47).
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- (944)631.459 : 631.61—Nicholas H. T.; Miller, A. W. Run-off disposal on Wellington Research Station. *J. Soil Conserv. Serv. N.S.W.* 2, 1946 (105-112). IX, 2
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- IX, 2 (945)631.459 : 631.61—Herriot, R. I. Soil conservation. A review of activities in Victoria and New South Wales. *J. Dept. Agric. S. Aust.* 46, 1943 (205-212).
- IX, 3 (945)631.459 : 631.61—Hore, H. L. Soil drift and control measures. *J. Dept. Agric. Victoria* 43, 1945 (233-240, 263-266). Biol. Abs. 20 (406).
- IX, 3 (945)631.459 : 631.61—Thomas, R. G.; Andrew, W. D. Soil conservation. Competition in the Goulburn Catchment area. *J. Dept. Agric. Victoria* 43, 1945 (291-298, 317-320). Biol. Abs. 20 (406).
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- (961)633.61-1.4—Cottrell-Dormer, W. Sugar cane (soils) in VIII, 2
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- (967.2)631.4—Oakley, R. G. Agriculture in Guam. *Foreign*
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LIST OF ABBREVIATIONS OF JOURNALS AND PERIODICALS

[The abbreviation is followed by the full title of the journal, and place of publication (where known).]

- ASTM Bull.** ASTM Bulletin. (American Society for Testing Materials.) Philadelphia, Pa.
- Acta Agralia Fenn.** Acta Agralia Fennica (Suomen Maataloustieteellisen Seuran Julkaisuja). Helsinki.
- Acta Agric. Suecana.** Acta Agriculturae Suecana. Stockholm.
- Acta Chem. Fenn.** Acta Chemica Fennica (Suomen Kemistilehti). Helsinki.
- Advancement of Science.** British Association for the Advancement of Science. London.
- Agric. Chem.** Agricultural Chemicals. New York.
- Agric. Chron. Moscow.** Agricultural Chronicle. U.S.S.R. Moscow.
- Agric. Engng.** Agricultural Engineering. Benton Harbor, Mich.
- Agric. Engng. Rec.** Agricultural Engineering Record. Oxford.
- Agric. Gaz. N.S.W.** Agricultural Gazette of New South Wales. Sydney.
- Agric. in Americas.** Agriculture in the Americas. Washington, D.C.
- Agric. Inst. Rev.** Agricultural Institute Review. Ottawa.
- Agric. Prog.** Agricultural Progress (The Journal of the Agricultural Education Association). Newport, Shropshire.
- Agric. Téc. Santiago.** Agricultura Técnica. Ministerio de Agricultura. Santiago, Chile.
- Agric. Topics.** Agricultural Topics. Aberystwyth.
- Agric. Trop. Bogotá.** Agricultura Tropical. Bogotá.
- Agric. Venezol.** Agricultor Venezolano. Caracas.
- Agricultura.** Bulletin Trimestriel de l'Association des Anciens Étudiants de l'Institut Agronomique de l'Université de Louvain. Héverlé, Louvain.
- Agriculture.** (Formerly J. Nin. Agric.) London.
- Agrogeol. Julk.** Maatalan-
skoolutoksen Maatutkimusosasto
Agrogeologia
Julkaisuja (Soil Division of
the Central Agricultural Ex-
periment Station of Finland).
Helsinki.
- Agron. Lusit.** Agronomia
Lusitana. Estação Agronô-
mica Nacional. Belém.
- Agron. Trop.** L'Agronomie
Tropicale (formerly L'Agronomie
Coloniale). Paris.
- Agronomía (La Molina).** Lima.
- Agronomía, Rio de J.** Rio
de Janeiro.
- Ala. Agric. Expt. Sta. Rept.** Alabama Agricultural Experi-
ment Station Annual Report.
Auburn, Ala.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Alberta Dept. Agric. Rept.** Alberta Department of Agriculture, Annual Report. Edmonton, Alberta.
- Alberta Dept. Agric. Univ. Joint Pub.** Alberta Department of Agriculture and University Joint Publication. Edmonton, Alberta.
- Alberta Univ. Coll. Agric. Bull.** Alberta University College of Agriculture. Bulletin Edmonton, Alberta.
- Alberta Univ. Ext. Leaflet.** University of Alberta Extension Leaflet. Edmonton, Alberta.
- Allahabad Farmer.** Allahabad.
- Allg. Forst- u. Jagdztg.** Allgemeine Forst- und Jagdzeitung. Frankfurt-am-Main.
- Alm. Min. Agric. Cuba.** Almanaque del Ministerio de Agricultura. Republica de Cuba. Havana.
- Alpw. Mbl.** Alpwirtschaftliche Monatsblätter. Solothurn.
- Amer. Fert.** The American Fertilizer. Philadelphia, Pa.
- Amer. Gas Assoc.** American Gas Association Monthly. New York.
- Amer. J. Bot.** American Journal of Botany. Lancaster, Pa.
- Amer. J. Phys.** American Journal of Physics. New York.
- Amer. J. Sci.** American Journal of Science. New Haven, Conn.
- Amer. Miner.** The American Mineralogist. Menasha, Wis.
- Amer. Nurserym.** American Nurseryman. Rochester, N.Y.
- Amer. Potato J.** American Potato Journal. Somerville, N.J.
- Amer. Soc. Sug. Beet Tech.** American Society of Sugar Beet Technologists. Longmont, Colo.
- Amer. Soc. Test. Mater.** Publication of the American Society for Testing Materials. Philadelphia, Pa.
- An. Esc. Sup. Agric. Luiz de Queiroz.** Anais da Escola Superior de Agricultura "Luiz de Queiroz". São Paulo.
- An. Fis. Quím.** Anales de Física y Química. Madrid.
- An. Inst. Cerc. Agron. Român.** Analele Institutului de Cercetări Agronomice al României. Bukarest.
- An. Inst. Edafol.** (Now An. Inst. Esp. Edafol.) Anales del Instituto de Edafología, Ecología y Fisiología Vegetal. Madrid.
- An. Inst. Esp. Edafol.** (Formerly An. Inst. Edafol.) Anales del Instituto Español de Edafología, Ecología y Fisiología Vegetal. Madrid.
- An. Soc. Cient. Argentina.** Anales de la Sociedad Científica Argentina. Buenos Aires.
- Anal. Chem.** Analytical Chemistry. (Formerly Industrial and Engineering Chemistry, Analytical Edition). Easton, Pa.
- Analyst.** The Analyst. London.
- Ankara Yüksek Zir. Enstitüsü Derg.** Ankara Yüksek Ziraat Enstitüsü Dergisi. (Bulletin of the Institute for Higher (Education in) Agriculture.) Ankara.
- Ann. Agron.** Annales Agronomiques. Paris.
- Ann. Appl. Biol.** Annals of Applied Biology. London.
- Ann. Assoc. Amer. Geog.** Annals of the Association of American Geographers. Hamilton, New York.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Ann. Assoc. Canad.- Franc. Sci.** Annales de l'Association Canadienne-Française des Sciences.
- Ann. Biochem. Expt. Med.** Annals of Biochemistry and Experimental Medicine. Calcutta.
- Ann. Bot.** Annals of Botany. London.
- Ann. Chim.** Annales de Chimie. Paris.
- Ann. Chim. Anal.** Annales de Chimie Analytique et de Chimie Appliquée et Revue de Chimie Analytique Réunies. Paris.
- Ann. Chim. Appl.** Annali di Chimica Applicata. Rome.
- Ann. Fac. Agrar. Portici.** Annali della Facoltà di Agraria di Portici della R. Università di Napoli. Portici.
- Ann. Fac. Agrar. Univ. Bari.** Annali della Facoltà di Agraria della R. Università di Bari. Bari.
- Ann. Fac. Agrar. Univ. Pisa.** Annali della Facoltà di Agraria della R. Università di Pisa. Pisa.
- Ann. Fac. Sci. Marseille.** Annales de la Faculté des Sciences de Marseille. Marseilles.
- Ann. Gembloux.** Annales de Gembloux. Gembloux.
- Ann. Inst. Agric. Algérie.** Annales de l'Institut Agricole et des Services de Recherches et d'Expérimentation Agricoles de l'Algérie. Algiers.
- Ann. Inst. Pasteur.** Annales de l'Institut Pasteur. Paris.
- Ann. l'Acfas.** Annales de l'Acfas. Association Canadienne-Française pour l'Avancement des Sciences. Montreal.
- Ann. Mikrobiol. (C.A.)**
- Ann. Rept. Geol. Soil Surv. Fukien.** Annual Report of the Geological Soil Survey of Fukien. Yungan, Fukien.
- Ann. Rev. Biochem.** Annual Review of Biochemistry. Stanford University, California.
- Ann. Serv. Bot. Agron. Tunisie.** Annales du Service Botanique et Agronomique de la Direction des Affaires Économiques de Tunisie. L'Ariana, Tunisia.
- Ann. Sper. Agrar. Roma.** Annali della Sperimentazione Agraria. Rome.
- Ann. Sta. Chim.-Agrar. Roma.** Annali della R. Stazione Chimico-Agrario Sperimentale di Roma. Rome.
- Ann. Sta. Sper. Agrar. Modena.** Annali della R. Stazione Sperimentale Agraria di Modena. Modena.
- Antiquity.** Gloucester.
- Antonie van Leeuwenhoek.** Journal of Microbiology and Serology. Amsterdam.
- Anzeiger Schädlingssk.** Anzeiger für Schädlingsskunde, zugleich Nachrichtenblatt der Deutschen Gesellschaft für Angewandte Entomologie. Berlin.
- Appal. For. Expt. Sta. Tech. Note.** Appalachian Forest Experiment Station. Technical Note. Ashville, Tenn.
- Arch. Hydrobiol.** Archiv für Hydrobiologie. Stuttgart.
- Arch. Inst., Bot. Liège.** Archives de l'Institut Botanique de l'Université de Liège. Brussels.
- Arch. Inst. Pasteur Algérie.** Archives de l'Institut Pasteur d'Algérie. Algiers.
- Arch. Mikrobiol.** Archiv für Mikrobiologie. Berlin.
- Arch. Phys. Biol.** Archives de physique biologique et de chimie-physique des corps organisés. Paris.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Ariz. Agric. Expt. Sta. Bull.** Arizona Agricultural Experiment Station. Bulletin. Tucson, Ariz.
- Ariz. Agric. Expt. Sta. Rept.** Arizona Agricultural Experiment Station Annual Report. Tucson, Ariz.
- Ariz. Agric. Expt. Sta. Tech. Bull.** Arizona Agricultural Experiment Station. Technical Bulletin. Tucson, Ariz.
- Ark. Agric. Expt. Sta. Bull.** Arkansas Agricultural Experiment Station. Bulletin. Fayetteville, Ark.
- Arg. Biol. Tec.** Arquivos de Biologia e Tecnologia. Parana.
- Årsskr. Alnarps Lantbr. Inst.** Årsskrift från Alnarps Lantbruks-, Mejeri- och Trädgårdsinstitut. Malmö.
- Årsskr. Alnarps Lantbr. Trädgårdsinst.** Årsskrift från Alnarps Lantbruks-, Mejeri- och Trädgårdsinstitut. Malmö.
- Arts and Science. (C.A.)**
- Arx. Inst. Cienc. Barcelona.** Arxius de l'Institut de Ciències. Barcelona.
- Assoc. Sci. Workers S. Africa Misc. Pub.** Association of Scientific Workers in South Africa. Miscellaneous Publication. Cape Town.
- Atti Accad. Fisiocr. Siena Sez. Agrar.** Atti della R. Accademia dei Fisiocritici di Siena. Sezione Agraria. Siena.
- Atti Relaz. Accad. Pugliese Sci.** Atti e Relazioni dell'Accademia Pugliese delle Scienze. Bari.
- Aust. Chem. Inst. J. Proc.** The Australian Chemical Institute. Journal and Proceedings. Melbourne.
- Aust. Counc. Sci. Indust. Res. Bull.** Commonwealth of Australia. Council for Scientific and Industrial Research. Bulletin. Melbourne.
- Aust. Counc. Sci. Indust. Res. Rept.** Commonwealth of Australia. Council for Scientific and Industrial Research. Annual Report. Melbourne.
- Aust. Dried Fruits News.** Australian Dried Fruits News. Mildura.
- Aust. Forestry.** Australian Forestry. Perth, W.A.
- Aust. Geog.** Australian Geographer. Sydney.
- Aust. J. Counc. Sci. Indust. Res.** Commonwealth of Australia. Journal of the Council for Scientific and Industrial Research. Melbourne.
- Aust. J. Expt. Biol.** Australian Journal of Experimental Biology and Medical Science. Adelaide.
- Aust. J. Sci.** The Australian Journal of Science. Sydney.
- Aust. Sug. J.** Australian Sugar Journal. Brisbane.
- Aust. Vet. J.** Australian Veterinary Journal. Sydney.
- B.A.** British Abstracts (Formerly British Chemical and Physiological Abstracts). [A. Pure Chemistry and Physiology. B. Applied Chemistry. C. Analysis and Apparatus.] London.
- B.C.A.** British Chemical and Physiological Abstracts (Now British Abstracts). [A. Pure Chemistry and Physiology. B. Applied Chemistry.] London.
- B.W.I. Sug. Assoc. Repts. Res. Wk.** British West Indies Sugar Association. Reports on Research Work. Bridgetown, Barbados.
- Bact. Rev.** Bacteriological Reviews. Baltimore, Md.
- Barbados Agric. J.** Barbados Department of Science and Agriculture Agricultural Journal. Bridgetown.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Barbados Dept. Sci. Agric. Bull.** Department of Science and Agriculture Bulletin. Barbados.
- Barbados Dept. Sci. Agric. Rept.** Barbados Department of Science and Agriculture Annual Report. Barbados.
- Barbados Sug. Prod. Assoc.** Barbados Sugar Producers' Association. Barbados.
- Bastfaser.** Beilage zur Wochenschrift "Der Deutsche Leinenindustrielle." Lausitz, Germany.
- Basutoland Rept. Dept. Agric.** Basutoland. Annual Report of the Department of Agriculture. Maseru, Basutoland.
- Bath and West Soc. Pamph.** Bath and West and Southern Counties Society. Pamphlet. Bath.
- Ber. Landboforen. Virks. Planteavl. Sjaelland.** Beretning om Landboforeningernes Virksomhed for Planteavlens par Sjaelland. Copenhagen.
- Ber. Landw. Berl.** Bericht über Landwirtschaft hrsg. im Reichsamte des Innern. Berlin.
- Ber. Landw. Forsch. Generalgouv. (C.A.)**
- Ber. Planteavlsarb. Landboforen. Fyns Stift.** Beretning om Planteavlsarbejdet i Landboforeningerne i Fyns Stift. Odense.
- Ber. Schweiz. Bot. Ges.** Bericht der Schweizerischen Botanischen Gesellschaft. Bern.
- Bergens Museums Årbok Naturvitenskap. Rekke.** Bergens Museums Årbok Naturvitenskapelig Rekke. Bergen.
- Bermuda Dept. Agric. Bull.** Bermuda Department of Agriculture. Bulletin. Bermuda.
- Better Crops with Plant Food.** Washington, D.C.
- Better Fruit.** Portland, Oreg.
- Biochem. J.** The Biochemical Journal. London.
- Biochem. Ztschr.** Biochemische Zeitschrift. Berlin.
- Biol. Abs.** Biological Abstracts. Easton, Pa.
- Biol. Gener.** Biologia generalis Archives Internationales de Biologie Générale. Vienna and New York.
- Biol. Rev.** Biological Reviews of the Cambridge Philosophical Society. London.
- Blue Anchor.** The Blue Anchor. Californian Fruit Exchange, Sacramento, Calif.
- Blyttia.** Oslo.
- Bodenk. Pflernähr.** Bodenkunde und Pflanzenernährung. Berlin.
- Bol. Agric. S. Paulo.** Boletim de Agricultura (State of S. Paulo Dept. of Agriculture). São Paulo.
- Bol. Agric. Terr. Esp. Golfo de Guinea. (R.A.M.)**
- Bol. Comp. Admin. Guano.** Boletín de la Compañia Administradora del Guano. Lima.
- Bol. Curs. Aperf. Espec.** Boletim Cursado da Aperfeicoamento Especies.
- Bol. Dept. Nac. Agric. C. Rica.** Boletín del Departamento Nacional de Agricultura. Costa Rica.
- Bol. Indust. Anim. (S. Paulo).** Boletim de Industria Animal (São Paulo). São Paulo.
- Bol. Inst. Investig. Agron. Madrid.** Boletín del Instituto Nacional de Investigaciones Agronómicas. Madrid.
- Bol. Min. Agric. Rio de J.** Boletim do Ministerio da Agricultura, Industria e Commercio. Rio de Janeiro.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Bol. Pat. Veg. Ent. Agric. Madr.** Boletín de Patología Vegetal y Entomología Agrícola. Madrid.
- Bol. Sec. Agric. Pernambuco.** Boletim de la Secretaria de Agricultura, Industria e Comercio. Pernambuco.
- Bol. Soc. Brasil. Agron.** Boletim da Sociedade Brasileira de Agronomia. Rio de Janeiro.
- Bol. Soc. Quím. Peru.** Boletín de la Sociedad Química del Peru. Lima.
- Bol. Soc. Venezol. Cienc. Nat.** Boletim Sociedad Venezolana de Ciencias Naturales. Caracas.
- Bol. Sup. Serv. Café.** Boletim da Superintendência dos Serviços do Café. (*Formerly* Revista do Instituto do Café.) São Paulo.
- Boll. Soc. Ital. Biol. Sper.** Bolllettino della Società italiana di biologia sperimentale. Naples.
- Boll. Sta. Pat. Veg.** Bolllettino della R. Stazione di Patologia Vegetale. Rome.
- Border Chron.** Border Chronicle (Pein Chin-Kuan-Lung).
- Bot. Gaz.** Botanical Gazette. Chicago.
- Bot. Rev.** Botanical Review. Lancaster, Pa.
- Bot. Zh. S.S.S.R.** Botanichesky Zhurnal S.S.S.R. (Botanical Journal of the U.S.S.R.) Leningrad.
- Boyce Thompson Inst. Contr.** Boyce Thompson Institute for Plant Research. Contributions. Yonkers, N.Y.
- Bragantia.** Boletim Técnico da Divisão de Experimentação e Pesquisas. Instituto Agronômico do Estado de São Paulo. Campinas, Brazil.
- Brasil Açuc.** Brasil Açucareiro. Rio de Janeiro.
- Brasil. Cong. Agron.** Segundo Congresso Brasileiro de Agronomia. Rio de Janeiro.
- Brew. Tr. Rev.** Brewing Trade Review. London.
- Brit. Columbia Dept. Agric. Rept.** British Columbia Department of Agriculture Annual Report. Victoria, B.C.
- Brit. Columbia Dept. Lands and Forests Rept. For. Serv.** Province of British Columbia, Department of Lands and Forests. Report of the Forest Service. Victoria, B.C.
- Brit. Emp. Forest. Fifth Conf.** Fifth British Empire Forestry Conference. London.
- Brit. Guiana Dept. Agric. Sug. Bull.** British Guiana. Department of Agriculture. Sugar Bulletin. Georgetown.
- Brit. J. Expt. Path.** British Journal of Experimental Pathology. London.
- Brit. J. Nutrit.** British Journal of Nutrition. London.
- Brit. Milit. Admin. Tripolitania Dept. Agric.** British Military Administration of Tripolitania. Department of Agriculture.
- Brit. Sug. Beet Rev.** British Sugar Beet Review. London.
- Bucks. Farm.** Buckinghamshire Farmer. High Wycombe.
- Bull. Acad. Sci. (U.S.S.R.) (Cl. Sci. Math.) Sér. Biol. (or Chirn.) (or Géol.)** Bulletin de l'Académie des Sciences de l'Union des Républiques Soviétiques Socialistes. Classe des Sciences Mathématiques et Naturelles. Série Biologique (or Série Chimique), (or Série Géologique). Izvestia Akademii Nauk. Moscow.
- Bull. Agric. Congo Belge.** Bulletin Agricole du Congo Belge. Brussels.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Bull. Agron. Min. France d'Outre Mer.** Bulletin Agronomique. Ministère de la France d'Outre Mer.
- Bull. Amer. Met. Soc.** Bulletin of the American Meteorological Society. Milton, Mass.
- Bull. Assoc. Chim.** Bulletin de l'Association des Chimistes. Paris.
- Bull. Del. Bd. Agric.** Bulletin of the Delaware Board of Agriculture. Dover, Del.
- Bull. Ent. Res.** Bulletin of Entomological Research. London.
- Bull. Fac. Sci. Fouad I Univ.** Bulletin of the Faculty of Science. The Fouad I University. Egypt.
- Bull. Geol. Soc. Amer.** Bulletin of the Geological Society of America. New York.
- Bull. Hung. Coll. Hort. Vin.** Bulletin of the Hungarian College for Horticulture and Viticulture. Budapest. A. M. Kertészeti és Szőlészeti Főiskola Közleményei. Budapest.
- Bull. Imp. Inst.** Bulletin of the Imperial Institute. London.
- Bull. Inspect. Gén. Agric. Alger.** Gouvernement Générale de l'Algérie. Inspection Générale et Direction de l'Agriculture. Bulletin. Algiers.
- Bull. Inst. Agron. Gembloux.** Bulletin de l'Institut Agronomique et des Stations de Recherches de Gembloux. Gembloux.
- Bull. Inst. Zern. Khoz. Yugo-Vost. S.S.S.R.** Bulletin Instituta Zernovogo Khoziaistva Yugo-Vostoka S.S.S.R. Saratov.
- Bull. Serv. Bot. Agron. Tunisie.** Bulletin du Service Botanique et Agronomique de Tunisie. Tunis.
- Bull. Soc. Agric. Algérie.** Bulletin de la Société des Agriculteurs d'Algérie. Algiers.
- Bull. Soc. Bot. Genève.** Bulletin de la Société Botanique de Genève. Geneva.
- Bull. Soc. Chim. Belg.** Bulletin de la Société Chimique de Belgique. Brussels.
- Bull. Soc. Chim. Biol. Paris.** Bulletin de la Société de Chimie Biologique. Paris.
- Bull. Soc. Chim. Fr.** Bulletin de la Société Chimique de France. Paris.
- Bull. Soc. For. Belg.** Bulletin de la Société Centrale Forestière de Belgique. Brussels.
- Bull. Soc. For. Franche-Comté.** Bulletin de la Société Forestière de Franche-Comté et Belfort. Besançon.
- Bull. Soc. Hist. Nat. Afr. N.** Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord. Algiers.
- Bull. Soc. Sci. Bretagne.** Bulletin de la Société Scientifique de Bretagne. Rennes.
- Bull. Tea Res. Inst. Ceylon.** Bulletin. Tea Research Institute of Ceylon. Kandy.
- Bull. Un. Agric. Égypte.** Bulletin de l'Union des Agriculteurs d'Égypte. Cairo.
- C.A.** Chemical Abstracts. Easton, Pa.
- C.R.** Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Paris.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- C.R. Acad. Agric.** Comptes Rendus Hebdomadaires des Séances de l'Académie d'Agriculture de France. Paris.
- C.R. Acad. Sci. (U.S.S.R.)** Comptes Rendus de l'Académie des Sciences de l'U.S.S.R. (Doklady Akademii Nauk S.S.S.R.) Leningrad.
- C.R. Lab. Carlsberg Sér. Chim. (or Physiol.)** Comptes Rendus des Travaux du Laboratoire de Carlsberg. Série Chimique (or Série Physiologique). Copenhagen.
- Calif. Agric. Expt. Sta. Bull.** California Agricultural Experiment Station. Bulletin. Berkeley.
- Calif. Agric. Expt. Sta. Circ.** California Agricultural Experiment Station. Circular. Berkeley.
- Calif. Avocado Soc. Yrbk.** California Avocado Society Yearbook. Los Angeles.
- Calif. Citrog.** California Citrograph. Los Angeles.
- Calif. Cultiv.** California Cultivator. Los Angeles.
- Campbell Soup Co. Dept. Agric. Res., Res. Monogr.** Campbell Soup Company Department of Agricultural Research. Research Monograph. Riverton, N.J.
- Campesino Santiago de Chile.** El Campesino. Santiago.
- Canad. Chem. Process Indust.** Canadian Chemistry and Process Industries. Toronto.
- Canad. Food Packer.** Canadian Food Packer. (Formerly Canadian Canner and Food Manufacturer.) Gardenvale, P.Q., Can.
- Canad. Geog. J.** Canadian Geographical Journal. Ottawa.
- Canad. J. Res.** Canadian Journal of Research. Ottawa.
- Canada Dept. Agric. Div. Chem. Ottawa.** Canada, Department of Agriculture, Division of Chemistry, Report of the Dominion Chemist. Ottawa.
- Canada Dept. Agric. Farm. Bull.** Dominion of Canada, Department of Agriculture, Farmers' Bulletin. Ottawa.
- Canada Dept. Agric. Pub.** Dominion of Canada, Department of Agriculture, Publication. Ottawa.
- Canada Dept. Agric. Tech. Bull.** Dominion of Canada, Department of Agriculture, Technical Bulletin. Ottawa.
- Canada Forest Serv. Sylvic. Res. Note.** Canada Forest Service, Sylviculture Research Note. Ottawa.
- Canada Rept. Min. Agric.** Report of the Minister of Agriculture, Dominion of Canada. Ottawa.
- Carib. Forest. Suppl.** Caribbean Forester Supplement. Rio Piedras, P.R.
- Cawthron Inst. Rept.** Cawthron Institute Annual Report. Nelson.
- Cent. Res. Agron. Maroc.** Centre de Recherches Agronomiques. Rabat, Morocco.
- Cereal Chem.** Cereal Chemistry. Washington, D.C.
- Ceres.** Minas Geraes, Brazil.
- Ceylon J. Sci.** Ceylon Journal of Science. Colombo.
- Chem. Engng. News.** Chemical and Engineering News. Easton, Pa.
- Chem. Indust.** Chemistry and Industry. London.
- Chem. Met. Engng.** Chemical and Metallurgical Engineering. New York.
- Chem. Products.** Chemical Products. Hornchurch, Essex, England.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Chem. Rev.** Chemical Reviews. Baltimore, Md.
- Chem. Weekbl.** Chemisch Weekblad. Amsterdam.
- Chem.-Ztg.** Chemiker-Zeitung. Cöthen, Germany.
- Chemurgic Digest.** National Farm Chemurgic Council. Columbus, Ohio.
- Cheshunt Expt. Res. Sta. Rept.** Cheshunt Experimental and Research Station. Annual Report. Cheshunt, England.
- Chim. Chron.** Chimika Chronika (Annales chimiques). Athens, Greece.
- Chim. Indust.** Chimie et Industrie. Paris.
- Chim. Indust. Milano.** Chimica e l'Industria. Milan.
- Chin. J. Nutr.** Chinese Journal of Nutrition. Shanghai.
- Citrus Grow.** Citrus Grower. Uitenhage, S. Africa.
- Citrus Indust.** The Citrus Industry. Tampa, Fla.
- Citrus Leaves.** Redlands, Calif.
- Citrus News.** Melbourne.
- Coal Res.** Coal Research. London.
- Coconut Res. Scheme (Ceylon) Leaflet.** Coconut Research Scheme (Ceylon) Leaflet. Lunuwila, Ceylon.
- Coffee Bd. Kenya. Mo. Bull.** The Coffee Board of Kenya. Monthly Bulletin. Nairobi.
- Colo. Agric. Expt. Sta. Bull.** Colorado Agricultural Experiment Station. Bulletin. Fort Collins, Colo.
- Colo. Agric. Expt. Sta. Tech. Bull.** Colorado Agricultural Experiment Station. Technical Bulletin. Fort Collins, Colo.
- Colo. Farm Bull.** Colorado Farm Bulletin. Quarterly Publication of Colorado Experiment Station. Fort Collins, Colo.
- Comm. Fert.** Commercial Fertilizer. Atlanta, Ga.
- Commonw. Agricst.** Commonwealth Agriculturist. Melbourne.
- Conf. Interamer. Agric. Caracas.** Conference on Interamerican Agriculture. Caracas.
- Cong. Nacl. Cienc. Agrár. 12a Seccão, Tec. Sup. Caderno Inst. Vinho Porto. (C.A.)**
- Conn. Agric. Expt. Sta. Bull.** Connecticut Agricultural Experiment Station. Bulletin. New Haven, Conn.
- Conn. Agric. Expt. Sta. Circ.** Connecticut Agricultural Experiment Station. Circular. New Haven, Conn.
- Conn. Storrs Agric. Expt. Sta. Bull.** Connecticut Storrs Agricultural Experimental Station. Bulletin. Storrs, Conn.
- Conv. Naz. Metano. (C.A.)**
- Cornell Agric. Expt. Sta. Bull.** Cornell University Agricultural Experiment Station. Bulletin. Ithaca, N.Y.
- Cornell Agric. Expt. Sta. Mem.** Cornell University. Agricultural Experiment Station. Memoirs. Ithaca, N.Y.
- Cornell Univ. Abs. Theses.** Cornell University. Abstracts of Theses. Ithaca, N.Y.
- Costa Rica. Dept. Nac. Agric. Bol. Tec.** Costa Rica. Departamento Nacional de Agricultura. Boletín Técnico. Costa Rica.
- Crown Colonist.** The Crown Colonist. London.
- Cult. Hand.** Cultuur en Handel. Cortenburg, Belgium.
- Curr. Sci.** Current Science. Bangalore.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- D.S.I.R. Geol. Surv. Gt. Britain Wartime Pamph.** Department of Scientific and Industrial Research. Geological Survey of Great Britain. Wartime Pamphlet. London.
- D.S.I.R. Road Res. Bull.** Department of Scientific and Industrial Research. Road Research Bulletin. London.
- Dansk Frøavl.** Copenhagen.
- Dansk Skovforen. Tidsskr.** Dansk Skovforeningens Tidsskrift. Copenhagen.
- Date Grow. Inst. Rept.** Date Growers Institute. Annual Report. Coachella, Calif.
- Del. Agric. Expt. Sta. Bull.** Delaware Agricultural Experiment Station. Bulletin. Newark, Del.
- Deut. Forstw.** Deutsche Forstwirt. Berlin.
- Deut. Tabakbau.** (C.A.)
- Die Chemie.** (Formerly Angewandte Chemie.) Berlin.
- Dir. Ger. Serv. Flor. Pub.** Direcção Geral dos Serviços Florestais e Aquícolas. Publicações. Lisbon.
- Dokl. Akad. S.-Kh. Nauk.** Doklady Vsesoiuznoi Akademii Selsko-Khoziastvennykh Nauk imeni V. I. Lenina (Comptes Rendus de l'Académie des Sciences Agricoles de V. I. Lenin). Moscow.
- Dokl. Nauch. Konf. Timiriazev. S.-Kh. Akad.** Doklady Nauchnoi Konferentsii Timiriazevskoi S.-Khoziasvennoi Akademii. Moscow.
- Down to Earth.** Down to Earth. A review of agricultural chemical progress. Dow Chemical Company, Midland, Michigan.
- Dozhdevanie.** (Biol. Abs.)
- E.C.G.R.** The Empire Cotton Growing Review. London.
- E.S.R.** Experiment Station Record. Washington, D.C.
- E. Afric. Agric. J.** East African Agricultural Journal. Nairobi.
- E. Afric. Agric. Res. Inst. Amani Rept.** East African Agricultural Research Institute. Amani Report. Amani, Tanganyika.
- E. Afric. Med. J.** East African Medical Journal. Nairobi.
- E. Fruit Grow.** Eastern Fruit Grower. Charles Town, W. Va.
- E. Malling Res. Sta. Rept.** East Malling Research Station. Annual Report. Maidstone.
- Eau. L'Eau.** Asnières (Seine), France.
- Ecol. Monog.** Ecological Monographs. Durham, N.C.
- Ecology.** Brooklyn, N. Y.
- Econ. Bot.** Economic Botany. Lancaster, Pa.
- Econ. Geog.** Economic Geography. Worcester, Mass.
- Econ. Geol.** Economic Geology. Urbana, Ill.
- Ecuador Min. Agric. Bol.** Ecuador Ministerio de Agricultura. Boletín.
- Egypt Min. Public Works, Phys. Dept. Paper.** Ministry of Public Works, Egypt. Physical Department Paper. Cairo.
- Eire J. Dept. Agric.** Journal of the Department of Agriculture, Eire. Dublin.
- Emp. Cott. Grow. Corp. Rept.** Empire Cotton Growing Corporation. Report. London.
- Emp. Cott. Grow. Rev.** The Empire Cotton Growing Review. London.
- Emp. Forestry J.** Empire Forestry Journal. London.
- Emp. Forestry Rev.** Empire Forestry Review. London.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Emp. J. Expt. Agric.** Empire Journal of Experimental Agriculture. London.
- Endeavour.** London.
- Engenharia.** São Paulo.
- Ergeb. Wiss. Untersuch. Schweiz. Nationalparkes.** Ergebnisse Wissenschaftlicher Untersuchungen des schweizerischen Nationalparkes. Aarau.
- Ernährung.** Die Ernährung. Deutsche Gesellschaft für Ernährungsforschung. Berlin.
- Estud. Geog.** Estudios Geográficos. Madrid.
- Experientia.** Basle.
- F.A.O. Memo.** Food and Agriculture Organization of the United Nations. Memorandum. Washington.
- F.A.O. Mission for Greece Rept.** F.A.O. Mission for Greece. Report. Food and Agriculture Organization of the United Nations. Washington, D.C.
- F.A.O. Tech. Suppl.** Food and Agriculture Organization of the United Nations. Report on World Food Situation. Technical Supplement. Washington, D.C.
- Farm and Forest.** Ibadan, Nigeria.
- Farm and Home Sci.** Farm and Home Science. Utah Agricultural Experiment Station. Logan, Utah.
- Farm Econ.** The Farm Economist. Oxford.
- Farm Impl. Mach. Rev.** Farm Implement and Machinery Review. London.
- Farm Impl. News.** Farm Implement News. Chicago.
- Farm Mech.** Farm Mechanization. London.
- Farm Res.** Farm Research. New York State Agricultural Experiment Station. Geneva, N.Y.
- Farm. S. Africa.** Farming in South Africa. Pretoria.
- Farm Sci. Repr.** Farm Science Reporter. Iowa State College. Ames, Iowa.
- Farm. Week. S. Africa.** Farmer's Weekly. Bloemfontein.
- Farming.** London.
- Faserforsch.** Faserforschung. Sorau.
- Fert. Feed. J.** Fertiliser, Feeding Stuffs and Farm Supplies Journal. London.
- Fert. Rev.** Fertilizer Review (National Fertilizer Association). Washington, D.C.
- Fiji Agric. J.** Fiji Department of Agriculture. Agricultural Journal. Suva.
- Finska MosskFören. Årsb.** Finska Mosskulturföreningens Årsbok. Helsinki.
- Fla. Agric. Expt. Sta. Bull.** Florida Agricultural Experiment Station. Bulletin. Gainesville, Fla.
- Fla. Agric. Expt. Sta. Pr. Bull.** Florida Agricultural Experiment Station. Press Bulletin. Gainesville, Fla.
- Fla. Agric. Expt. Sta. Rept.** Florida Agricultural Experiment Station. Annual Report. Gainesville, Fla.
- Fla. Agric. Expt. Sta. Serv. Bull.** Florida Agricultural Experiment Station. Service Bulletin. Gainesville, Fla.
- Fla. Dept. Conservation Geol. Bull.** Florida Department of Conservation. Geological Bulletin.
- Flor. Exch.** Florists Exchange and Horticultural Trade World. New York.
- Flor. Rev.** Florists' Review. Chicago.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Food Packer.** (Formerly Food Packer and Canning Age). Chicago, Ill.
- Food Res.** Food Research. Champaign, Illinois.
- For. Abs.** Forestry Abstracts. Oxford.
- For. Chron.** Forestry Chronicle. Canadian Society of Forest Engineers. Knowlton, Quebec, Canada.
- Foreign Agric.** Foreign Agriculture. Washington, D.C.
- Forest. Comm. Bull.** Forestry Commission Bulletin. London.
- Forest. Comm. Leaflet.** Forestry Commission Leaflet. H.M.S.O. London.
- Forest. Comm. Operations Ser.** Forestry Commission Operations Series. H.M.S.O., London.
- Forestry.** London.
- Forêt Québécoise.** Quebec.
- ForschDienst.** Forschungsdienst. Berlin.
- ForschDienst. Sonderh.** Forschungsdienst. Sonderheft. Berlin.
- ForschErgebn.** Gartenb. Forschungsergebnisse aus dem Gebiete des Gartenbaues. Zurich.
- Forsch. u. Fortschr.** Forschungen und Fortschritte. Nachrichtenblatt der Deutschen Wissenschaft und Technik. Berlin.
- Forstarchiv.** Hannover.
- Forstl. Forsøgsv. Danm.** Forstlige, Det, Forsøksvaesen i Danmark. Copenhagen.
- Forstwiss. Cbl.** Forstwissenschaftliches Centralblatt. Berlin.
- Forstwiss. Cbl. u. Tharandt. Jahrb.** Forstwissenschaftliches Centralblatt und Tharandterforstliches Jahrbuch (Kriegsgemeinschaftsausgabe). Berlin.
- Friesla.** Copenhagen.
- Fruit-Grower.** The Fruit-Grower. Fruiterer, Florist and Market Gardener. London.
- Fruit World Melbourne.** Fruit World (of Australasia). Melbourne.
- Fruits d'Outre-Mer.** Paris.
- Fruits Primeurs.** Fruits et Primeurs de l'Afrique du Nord et la Revue Française de l'Oranger. Casablanca.
- Fukien Prov. Agric. J.** Fukien Provincial Agricultural Journal. Foochow.
- Futtersaatbau.** Leipzig.
- Ga. Agric. Expt. Sta. Circ.** Georgia Agricultural Experiment Station. Circular. Experiment, Ga.
- Ga. Agric. Ext. Serv. Bull.** Georgia Agricultural Extension Service Bulletin. Athens, Georgia.
- Ga. Coast. Pl. Expt. Sta. Bull.** Georgia Coastal Plain Agricultural Experiment Station. Bulletin. Tifton, Ga.
- Ga. Coast. Pl. Expt. Sta. Circ.** Georgia Coastal Plain Experiment Station. Circular. Tifton, Ga.
- Ga. Coast. Pl. Expt. Sta. Mimeo. Paper.** Georgia Coastal Plain Agricultural Experiment Station. Mimeograph Paper. Tifton, Ga.
- Ga. Expt. Sta. Bull.** Georgia Experiment Station of the University System of Georgia. Bulletin. Experiment, Ga.
- Ga. Expt. Sta. Rept.** Georgia Experiment Station. Annual Report. Experiment, Ga.
- Gard. Chron.** Gardeners' Chronicle. London.
- Gartenbauwiss.** Gartenbauwissenschaft. Berlin.
- Gas.** Los Angeles, Calif.
- Gas (The Hague).** Het Gas. • The Hague.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Gas- u. Wasserfach.** Gas- und Wasserfach. Munich.
- Gas World.** London.
- Geog. J.** Geographical Journal. London.
- Geog. Rev.** The Geographical Review. New York.
- Geography.** London.
- Geophys.** Geophysics. A Journal of General and Applied Geophysics. Houston, Texas.
- Gesundh.-Ing.** Gesundheits-Ingenieur. Zeitschrift für die Gesamte Städtehygiene. Munich.
- Gigiēna i Sanit.** Gigena i Sanitaria. Moscow.
- Gladiolus.** The New England Gladiolus Society Yearbook. Norwood, Mass.
- Granos.** Buenos Aires.
- Hawaii Agric. Expt. Sta. Circ.** Hawaii Agricultural Experiment Station. Circular. Honolulu.
- Hawaii Agric. Expt. Sta. Rept.** Hawaii Agricultural Experiment Station. Annual Report. Honolulu.
- Hawaii Plant. Rec.** Hawaiian Planters' Record. Honolulu.
- Hawaii Univ. Res. Pub.** Hawaii University. Research Publication. Honolulu.
- Helminth. Abs.** Helminthological Abstracts. St. Albans.
- Herb. Abs.** Herbage Abstracts. Aberystwyth, Wales.
- Herbertia.** Orlando, Fla.
- Herts. W.A.E.C. Mo. Notes** Hertfordshire War Agricultural Executive Committee Monthly Notes. Watford.
- Hilgardia.** Berkeley, Calif.
- Hort. Abs.** Horticultural Abstracts. East Malling, Kent.
- Hort. Educ. Ass. Occ. Pub.** Horticultural Education Association. Occasional Publication. London.
- Idaho Agric. Expt. Sta. Bull.** Idaho Agricultural Experiment Station. Bulletin. Moscow, Idaho.
- Ill. Agric. Expt. Sta. Bull.** Illinois Agricultural Experiment Station. Bulletin. Urbana, Ill.
- Ill. St. Water Survey Bull.** Illinois State Water Survey Bulletin. Urbana, Ill.
- Imp. Agric. Bur. Joint Pub. London.** Imperial Agricultural Bureaux Joint Publication. London.
- Imp. Bur. Hort. Tech. Commun.** Imperial Bureau of Horticulture and Plantation Crops. Technical Communication. East Malling.
- Imp. Coll. Trop. Agric. Trinidad. Ann. Rept. Cacao Res.** Imperial College of Tropical Agriculture, Trinidad. Annual Report on Cacao Research. Trinidad.
- Imp. Counc. Agric. Res. Sci. Monog.** The Imperial Council of Agricultural Research. Scientific Monograph. Delhi.
- Imp. Forestry Inst. Pap.** Imperial Forestry Institute Paper. University of Oxford.
- Indian Cott. Grow. Rev.** Indian Cotton Growing Review. Bombay.
- Indian East. Engr.** Indian and Eastern Engineer. Calcutta.
- Indian Ecologist.** Bombay.
- Indian Farm.** Indian Farming. Delhi.
- Indian Forester.** Lahore.
- Indian J. Agric. Sci.** Indian Journal of Agricultural Science. Delhi.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Indian J. Hort.** The Indian Journal of Horticulture. Sabour. Bihar.
- Indian J. Phys.** Indian Journal of Physics. Calcutta.
- Indian Sug.** Indian Sugar. Cawnpore.
- Indiana Agric. Expt. Sta. Bull.** Purdue University. Agricultural Experiment Station. Bulletin. Lafayette, Indiana.
- Indiana Agric. Expt. Sta. Mimeo.** Purdue University. Agricultural Experiment Station. Mimeograph. Lafayette, Indiana.
- Indiana Agric. Expt. Sta. Rept.** Purdue University. Agricultural Experiment Station. Annual Report. Lafayette, Indiana.
- Indiana Agric. Expt. Sta. Spec. Circ.** Purdue University. Agricultural Experiment Station. Special Circular. Lafayette, Indiana.
- Indust. Chim.** L'Industrie Chimique. Paris.
- Indust. Engng. Chem.** Industrial and Engineering Chemistry. Easton, Pa.
- Indust. Engng. Chem. (Anal. Ed.)** Industrial and Engineering Chemistry. Analytical Edition. (Note Analytical Chemistry). Easton, Pa.
- Indust. Quím.** Industria y Química. Buenos Aires.
- Inst. Belge Amélior. Better Pub.** Institut Belge pour l'Amélioration de la Betterave. Publication. Tirlemont, Belgium.
- Inst. for. Invest. Esp. (Madrid).** Instituto forestal de Investigaciones y Experiencias (Madrid). Trabajos. La Moncloa, Madrid.
- Inst. Natl. Ét. Agron. Congo Belge Pub. Sér. Sci.** Institut National pour l'Étude Agronomique du Congo Belge. Publications Série Scientifique. Brussels.
- Inst. Pl. Indust. Indore Prog. Rept.** Progress Report. Institute of Plant Industry. Indore.
- Inst. Sewage Purif. Ann. Gen. Meetg.** Institute of Sewage Purification. Annual General Meeting. London.
- Inst. Sewage Purif. Ann. Summer Meetg.** The Institute of Sewage Purification. Annual Summer Meeting. Hampton-on-Thames. Mddx.
- Inst. Sewage Purif., S. Afric. Br. (Mimeo).** Institute of Sewage Purification, South Africa Branch. Mimeograph. London.
- Int. Bull. Plant Prot.** International Bulletin of Plant Protection. Rome.
- Int. Rev. Agric.** International Review of Agriculture. Rome.
- Int. Sug. J.** International Sugar Journal. London.
- Intersylva.** (Biol. Abs.)
- Iodine Facts.** Iodine Educational Bureau. London.
- Iowa Agric. Expt. Sta. Bull.** Agricultural Experiment Station. Iowa State College of Agriculture and Mechanic Arts. Bulletin. Ames, Iowa.
- Iowa Agric. Expt. Sta. Rept.** Agricultural Experiment Station. Iowa State College of Agriculture and Mechanic Arts. Report on Agricultural Research. I. Project Reports. II. Iowa Corn Research Institute. Annual Report. Ames, Iowa.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Iowa Agric. Expt. Sta. Res. Bull.** Agricultural Experiment Station. Iowa State College of Agriculture and Mechanic Arts. Research Bulletin. Ames, Ia.
- Iowa St. Coll. J. Sci.** Iowa State College of Agriculture and Mechanic Arts. Journal of Science. Ames, Ia.
- Iowa St. Hort. Soc. Rept.** Iowa State Horticultural Society. Report. Des Moines, Ia.
- Irish Forest.** Irish Forester.
- Ist. Agr. Scandicci.** Istituto Agrario di Scandicci. Florence.
- Ist. Sper. Chim. Agrar. Torino Ann.** R. Istituto di Sperimentazione per la Chimica Agraria in Torino. Annuario. Turin.
- Ital. Agric.** L'Italia Agricola. Rome.
- Ital. Forest. Mont.** L'Italia Forestale e Montana. Florence, Italy.
- J.A.S.T. Quart.** (C.A.)
- J. Agric. Assoc. China.** Journal of the Agricultural Association of China. Nanking.
- J. Agric. Res.** Journal of Agricultural Research. Washington, D.C.
- J. Agric. Sci.** Journal of Agricultural Science. London.
- J. Agric. Univ. P.R.** Journal of Agriculture of the University of Puerto Rico. Rio Piedras.
- J. Agric. W. Aust.** Journal of Agriculture of Western Australia. Perth, W. Australia.
- J. Ala. Acad. Sci.** Journal of the Alabama Academy of Science. University of Alabama.
- J. Amer. Ceram. Soc.** Journal of the American Ceramic Society. Columbus, Ohio.
- J. Amer. Chem. Soc.** Journal of the American Chemical Society. Washington, D.C.
- J. Amer. Leath. Chem. Assoc.** The Journal of the American Leather Chemists' Association. New York.
- J. Amer. Pharm. Assoc.** Journal of the American Pharmaceutical Association. Washington, D. C.
- J. Amer. Soc. Agron.** Journal of the American Society of Agronomy. Geneva, N.Y.
- J. Amer. Vet. Med. Assoc.** Journal of the American Veterinary Medical Association. Chicago, Ill.
- J. Amer. Water Works Assoc.** Journal of the American Water Works Association. New York.
- J. Anim. Ecol.** Journal of Animal Ecology. London.
- J. Assoc. Off. Agric. Chem.** Journal of the Association of Official Agricultural Chemists. Washington, D.C.
- J. Aust. Inst. Agric. Sci.** The Journal of the Australian Institute of Agricultural Science. Sydney.
- J. Bact.** Journal of Bacteriology. Baltimore, Md.
- J. Biol. Chem.** The Journal of Biological Chemistry. Baltimore, Md.
- J. Bot. U.S.S.R.** Journal Botanique de l'U.R.S.S. (See Bot. Zh. S.S.S.R.) Leningrad.
- J. Brit. Grassland Soc.** Journal of the British Grassland Society. Aberystwyth.
- J. Ceylon Assoc. Sci.** Journal of the Ceylon Association of Science.
- J. Chem. Soc. Japan.** Journal of the Chemical Society of Japan. Tokyo.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- J. Chinese Chem. Soc.** Journal of the Chinese Chemical Society. Peiping.
- J. Coll. Sci.** Journal of Colloid Science. New York.
- J. Counc. Sci. Indust. Res.** Journal of the Council for Scientific and Industrial Research, Australia. Melbourne.
- J. Dept. Agric. S. Aust.** Journal of the Department of Agriculture of South Australia. Adelaide.
- J. Dept. Agric. Victoria.** Journal of the Department of Agriculture of Victoria. Melbourne.
- J. Dept. Agric. W. Aust.** Journal of the Department of Agriculture of Western Australia. Perth.
- J. Ecol.** Journal of Ecology. London.
- J. Econ. Ent.** Journal of Economic Entomology. Menasha, Wis.
- J. Expt. Biol.** The Journal of Experimental Biology. Cambridge.
- J. Farm. Club.** Journal of the Farmers' Club. London.
- J. Farm. Econ.** Journal of Farm Economics. Menasha, Wis.
- J. Forestry.** Journal of Forestry. Washington, D. C.
- J. Franklin Inst.** Journal of the Franklin Institute. Lancaster, Pa.
- J. Gen. Microbiol.** Journal of General Microbiology. London.
- J. Geog.** Journal of Geography. Lancaster, Pa.
- J. Geol.** Journal of Geology. Chicago.
- J. Inc. Brew. Guild.** Journal of the Incorporated Brewers' Guild. London.
- J. Indian Chem. Soc. Indust. Ed.** Journal of the Indian Chemical Society. Industrial and News Edition. Calcutta.
- J. Indian Chem. Soc.** Journal of the Indian Chemical Society. Calcutta.
- J. Indian Inst. Sci.** Journal of the Indian Institute of Science. Bangalore.
- J. Inst. Brew.** Journal of the Institute of Brewing. London.
- J. Inst. Corn Agric. Merchants.** Journal of the Institute of Corn and Agricultural Merchants Limited. London.
- J. Inst. Petrol.** Journal of the Institute of Petroleum. London.
- J. Iron Steel Inst.** Journal of the Iron and Steel Institute. London.
- J. Jamaica Agric. Soc.** Journal of the Jamaica Agricultural Society. Kingston.
- J. Landw.** Journal für Landwirtschaft. Berlin.
- J. Min. Agric.** The Journal of the Ministry of Agriculture and Fisheries. (Now Agriculture). London.
- J. Mysore Agric. Expt. Un.** Journal of the Mysore Agricultural and Experimental Union. Bangalore.
- J. Nutr.** The Journal of Nutrition. Philadelphia, Pa.
- J. N.Y. Bot. Gdn.** Journal of the New York Botanical Garden. New York.
- J. Opt. Soc. Amer.** Journal of the Optical Society of America. New York.
- J. Phys. Chem.** Journal of Physical Chemistry. Baltimore, Md.
- J. Phys. Colloid Chem.** Journal of Physical and Colloid Chemistry. Baltimore, Md.
- J. Pomol.** Journal of Pomology and Horticultural Science. London.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- J. Res. Natl. Bur. Stand.** Journal of Research of the National Bureau of Standards. Washington, D.C.
- J. Roy. Agric. Soc. England.** Journal of the Royal Agricultural Society of England. London.
- J. Roy. Hort. Soc.** Journal of the Royal Horticultural Society. London.
- J. Roy. Soc. Arts.** Journal of the Royal Society of Arts. London.
- J. Roy. Statist. Soc.** Journal of the Royal Statistical Society. London.
- J. S. Afric. Forestry Assoc.** Journal of the South African Forestry Association. Pretoria.
- J. Sci. Indust. Res. (India).** Journal of Scientific and Industrial Research (India). New Delhi.
- J. Sci. Instrum.** Journal of Scientific Instruments. London.
- J. Sediment. Petrol.** Journal of Sedimentary Petrology. Tulsa, Okla.
- J. Soc. Chem. Indust.** Journal of the Society of Chemical Industry. London.
- J. Soil Conserv. Serv. N.S.W.** The Journal of the Soil Conservation Service of New South Wales. Sydney.
- J. Soil Water Conserv.** Journal of Soil and Water Conservation. Fairmont, W. Virginia.
- J. Univ. Bombay.** Journal of the University of Bombay. Bombay.
- J. W. China Border Res. Soc.** Journal of the West China Border Research Society. Chengtu.
- J. Wildlife Mgmt.** Journal of Wildlife Management. Menasha, Wis.
- Jaarb. Alg. Bond Oud-Leeri. Middel. LandbouwOnderw.** Jaarboek van den Algemeenen Bond van Oud-Leerlingen voor Middelbaar Landbouwonderwijs.
- Jahrb. Reichs. Bodenforsch.** Jahrbuch des Reichsamts für Bodenforschung. Berlin.
- Jamaica Dept. Sci. Agric. Rept. Agric. Chem. Div.** Department of Science and Agriculture, Jamaica. Report of the Agricultural Chemist's Division. Jamaica.
- Jamaican Assoc. Sug. Tech. Quart.** The Jamaican Association of Sugar Technologists. Quarterly. Kingston.
- Jealott's Hill Res. Sta. Bull.** Jealott's Hill Research Station. Bulletin. Bracknell, Berks.
- John Innes Bull.** John Innes Horticultural Institution. Bulletin. Merton, Surrey.
- John Innes Rept.** John Innes Horticultural Institution. Report. Merton and Herford.
- Kans. Agric. Expt. Sta. Bull.** Agricultural Experiment Station. Kansas State College of Agriculture and Applied Science. Bulletin. Manhattan, Kans.
- Kans. Agric. Expt. Sta. Rept.** Agricultural Experiment Station. Kansas State College of Agriculture and Applied Science. Report. Manhattan, Kans.
- Kent Farm. J.** Kent Farmers' Journal. Maidstone.
- Kenya Dept. Agric. Rept.** Kenya Department of Agriculture. Annual Report. Nairobi.
- Kew Bull.** Royal Botanical Gardens, Kew. Bulletin of Miscellaneous Information. H.M.S.O. London.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Kgl. LantbrAkad. Handl. Tidskr.** Kungliga Landbruksakademiens Handlingar och Tidskrift. (Now Kungliga Landbruksakademiens Tidskrift.) Stockholm.
- Kgl. LantbrAkad. Tidskr.** Kungliga Landbruksakademiens Tidskrift. (Formerly Kungliga Landbruksakademiens Handlingar och Tidskrift.) Stockholm.
- Kgl. LantbrHögsk. Ann.** Kungliga Landbrukshögskolans Annaler. (Formerly Lantbrukshögskolans Annaler.) (Annals of the Royal Agricultural College of Sweden.) Uppsala.
- Kgl. Vet. Landbohøjsk. Aarsskr.** (Formerly Kgl. Vet. LandHøjsk. Aarsskr.) Kongelige Veterinaer og Landbohøjskoles Aarsskrift. Copenhagen.
- Kgl. Vet. LandHøjsk. Aarsskr.** (Now Kgl. Vet. Landbohøjsk. Aarsskr.) Kongelige Veterinaer og Landbohøjskoles Aarsskrift. Copenhagen.
- Khim. Sotsial. Zemled.** Khimist-ia Sotsialisticheskogo Zemledel'ia (Chemisation of Socialist Agriculture). Moscow.
- King-ling Univ. Agric. Coll. Spec. Pub.** King-ling University Agricultural College Special Publication.
- Kirton Agric. J.** Kirton Agricultural Journal. Kirton, Lincs.
- Kisérl. Közlem.** Kisérlétegyi Közlemények (Reports of the Hungarian Agricultural Experiment Stations). Budapest.
- Kolkhoz. Proizvod.** Kolkhoznoe Proizvodstvo. Moscow.
- Kolloid-Belh.** Kolloid-Belhefte. Ergänzungshefte zur Kolloid-Zeitschrift. Dresden.
- Kolloid. Zh.** Kolloidny Zhurnal. Zhurnal Teoreticheskoi i Prikladnoi Khimii i Fiziki (Colloid Journal. The Journal of Theoretical and Applied Chemistry). Voronezh.
- Kolloid-Ztschr.** Kolloid-Zeitschrift. Zeitschrift für Wissenschaftliche und Technische Kolloidchemie. Dresden.
- Kühn-Archiv.** Kühn-Archiv. Arbeiten aus dem Landwirtschaftlichen Institut der Universität Halle. Halle a.d. Saale.
- Kwangsi Agric.** Kwangsi Agriculture.
- Ky. Agric. Expt. Sta. Bull.** Kentucky Agricultural Experiment Station. Bulletin. Lexington, Ky.
- Ky. Agric. Expt. Sta. Rept.** Kentucky Agricultural Experiment Station. Annual Report. Lexington, Ky.
- La. Agric. Expt. Sta. Bull.** Louisiana State University and Agricultural and Mechanical College. Agricultural Experiment Station. Bulletin. Baton Rouge, La.
- Laure State Forest Expt. Sta. Tech. Notes.** Laure State Forest Experiment Station. Technical Notes. University Farm, St. Paul, Minn.
- Land Policy Rev.** The Land Policy Review. Washington, D.C.
- Landb. u. Tech.** Landbau und Technik. Berlin.
- Landbouw.** Buitenzorg.
- Landbouwk. Tijdschr.** Landbouwkundig Tijdschrift. Wageningen.
- Landbouwvoorlichtingsdienst. Meded.** Mededeelingen van den Landbouwvoorlichtingsdienst. Buitenzorg.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Landenberg Lab.** Publication of the Landenberg Laboratory. Landenberg, Pa.
- Landw. Jahrb.** Landwirtschaftliche Jahrbücher. Berlin.
- Landw. Jahrb. Schweiz.** Landwirtschaftliches Jahrbuch der Schweiz. Bern.
- Landw. VersAnst. Zürich Flugbl.** Eidgenössische Landwirtschaftliche Versuchsanstalt. Flugblatt. Zurich-Oerliken.
- LantbrHögsbk. Ann.** Lantbrukshögskolans Annaler. (Now Kungliga Lantbrukshögskolans Annaler). Uppsala.
- LantbrHögsbk. Baljväxtlab. Medd.** Lantbrukshögskolans Baljväxtlaboratorium Meddelandet. (Transactions of the Legume Laboratory of the Agricultural College.) Stockholm.
- LantbrHögsbk. Jordbr-Försöksanst. Medd.** Lantbrukshögskolans Jordbruk-försöksanstalten Meddelande. Norrtälje, Sweden.
- Lantbruksveckan.** Utgiven av Styrelsen för Stiftelsen Svenska Lantbruksveckan. Redigerad av Lantbruksveckans Byrå. Stockholm.
- Lantm. Svenskt Land.** Lantmannen, Svenskt Land. Tidskrift för Lantmän. Stockholm.
- Lesnická Práce.** (Oeuvre Forestière.) Pisek, Czechoslovakia.
- Lesnoe Khoz.** Lesnoe Khoziasstvo i Lesoeksploatatsia (Forest Husbandry and Forest Utilization.) Leningrad.
- Lighter.** Ottawa.
- Line Elevators Farm Serv. Bull.** Line Elevators Farm Service Bulletin. Winnipeg.
- Line Elevators Farm Serv. Winnipeg Circ.** Line Elevators Farm Service. Circular. Winnipeg.
- Lloydia.** Cincinnati, Ohio.
- Long Ashton Agric. Hort. Res. Sta. Rept.** The Annual Report of the Agricultural and Horticultural Research Station (The National Fruit and Cider Institute). Long Ashton, Bristol.
- Maan Suola.** Helsinki.
- Maat. Aikak.** Maataloustieteellinen Aikakauskirja (Journal of the Scientific Agricultural Society of Finland). Helsinki.
- Maatalouskoelaitos. Maatutkimusosasto.** Maatalouskoelaitoksen Maatutkimusosasto (Agrogeologia Julkaisuja). (Soil Division of the Central Agricultural Experiment Station of Finland). Helsinki.
- Mach. Agric.** Machinisme Agricole et Équipement Rural. Revue Mensuelle. Paris.
- Machin. Agric.** Machine Agricole. Amiens.
- Madras Agric. J.** Madras Agricultural Journal. Coimbatore.
- Mang. Res. Developm. Found. Ohio.** Manganese Research and Development Foundation. Cleveland, Ohio.
- Manitoba Dept. Agric. Pub.** Manitoba Department of Agriculture and Immigration. Publication. Winnipeg.
- Manx. J. Agric.** The Manx Journal of Agriculture. Douglas, I. of Man.
- Mass. Agric. Expt. Sta. Bull.** Massachusetts Agricultural Experiment Station. Bulletin. Amherst, Mass.
- Mauritius Dept. Agric. Rept.** Colony of Mauritius Department of Agriculture. Annual Report. Port Louis, Mauritius.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Mauritius Dept. Agric. Rept.**
Sugarcane Res. Sta. Mauritius Department of Agriculture Sugarcane Research Station. Annual Report. Port Louis, Mauritius.
- Md. Agric. Expt. Sta. Rept.**
Maryland Agricultural Experiment Station. Annual Report. College Park, Md.
- Me. Agric. Expt. Sta. Bull.**
Maine Agricultural Experiment Station. Bulletin. Orono, Me.
- Mech. Engng.** Mechanical Engineering. New York.
- Medd. JordbrTek. Fören.**
Meddelanda från Jordbruks- tekniska Föreningen. Uppsala.
- Medd. Norske Myrselsk.**
Meddelelser fra det Norske Myrselskab. Oslo.
- Medd. SkögsförsökInst.** Meddelanden från Statens Skögsförsöknsinstitut. (Formerly Meddelanden från Statens Skögsförsöksanstalt). Reports of the Forest Research Institute of Sweden). Stockholm.
- Medd. Skögsförsöksanst.**
Meddelanden från Statens Skögsförsöksanstalt. (Now Meddelanden från Statens Skögsförsöknsinstitut). (Reports of the Swedish Institute of Experimental Forestry). Stockholm. •
- Medd. Växtskyddanst.**
Stockh. Meddelanden. Statens Växtskyddsanstalt. Stockholm.
- Meded. Bot. Lab. Utrecht.**
Mededeelingen van het Botanisch Laboratorium. Utrecht.
- Meded. Direct. Tuinb.**
Mededeelingen Directeur van den Tuinbouw. The Hague.
- Meded. Insp. Tuinb.**
Mededeelingen van den Inspecteur van den Tuinbouw en het Tuinbouwonderwijs. Wageningen.
- Meded. Inst. Ration. Suikerprod.** Mededeelingen van het Instituut voor Rationeele Suikerproduktie. (Formerly Meded. Inst. Suikerbiet.) Bergen-op-Zoom.
- Meded. Inst. Suikerbiet.**
Mededeelingen van het Instituut voor Suikerbietenteelt. (Now Mededeelingen van het Instituut voor Rationeele Suikerproduktie). Bergen-op-Zoom.
- Meded. Kolon. Inst. Amsterdam.** Mededeelingen van het Koloniaal Instituut te Amsterdam.
- Meded. Konink. Vereen. Indisch. Inst.** Koninklijke Vereeniging Indisch Instituut. (Formerly Koloniaal Instituut.) Mededeeling. Amsterdam.
- Meded. LandbHoogesch. Opzoekingssta. Gent.**
Mededeelingen der Landbouwhoogeschool en der Opzoekingsstations van der Staat te Gent. Ghent.
- Meded. LandbHoogesch. Wageningen.** Mededeelingen van de Landbouwhoogeschool. Wageningen.
- Meded. LandbVoorlDienst.**
Mededeelingen van den Landbouvoorlichtingsdienst. Buitenzorg.
- Meded. Tuinb. VoorlDienst.**
Mededeelingen van den Tuinbouw-Voorlichtingsdienst. The Hague.
- Meld. Norg. LandbrHøgsk.**
Meldinger fra Norges Landbrukshøgskole (Scientific Reports from the Agricultural College of Norway). Ås, Norway.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Meld. Stat. Forsøksgard Grønsakdyrking. Kvithamar.** Melding frå Statens Forsøksgard i Grønsakdyrking, Kvithamar. Grøndahl, Oslo.
- Mem. Assoc. Tec. Azucar. Cuba.** Memoria de la Conferencia Anual, Asociación de Técnicos Azucareros de Cuba. Havana.
- Mem. Inst. Français Afrique Noire.** (Biol. Abs.)
- Météorologie. La Météorologie.** Paris.
- Méx. For.** México Forestal. México.
- Mezőg. Kutat.** Mezőgazdasági Kutatások (Agricultural Researches). Budapest.
- Mich. Agric. Expt. Sta. Circ. Bull.** Michigan Agricultural Experiment Station. Circular Bulletin. East Lansing, Mich.
- Mich. Agric. Expt. Sta. Quart. Bull.** Michigan Agricultural Experiment Station. Quarterly Bulletin. East Lansing, Mich.
- Mich. Agric. Expt. Sta. Spec. Bull.** Michigan Agricultural Experiment Station. Special Bulletin. East Lansing, Mich.
- Mich. Agric. Expt. Sta. Tech. Bull.** Michigan Agricultural Experiment Station. Technical Bulletin. East Lansing, Mich.
- Mikrobiol. Zh.** Mikrobiologichny Zhurnal (Microbiological Journal). Kiev.
- Mikrobiologia.** (Microbiology). Moscow.
- Mikrochem.** Mikrochemie. Vienna.
- Milit. Govt. Somaliland Protectorate.** Military Government. Somaliland Protectorate.
- Min. Agr. Mem. Inst. Quim. Agr. (Rio de J.).** Ministerio de Agricultura. Instituto de Química Agrícola. Memória. Rio de Janeiro.
- Min. Agric. Advis. Leaflet.** Ministry of Agriculture and Fisheries. Advisory Leaflet. London.
- Min. Agric. Bolivia Dir. Gen. Meteorol.** Ministerio de Agricultura, Bolivia, Dirección General de Meteorología.
- Min. Agric. Bull.** Ministry of Agriculture and Fisheries Bulletin. London.
- Min. Agric. Egypt. Chem. Sect. Bull.** Ministry of Agriculture, Egypt. Chemical Section Bulletin. Cairo.
- Min. Agric. France.** Ministère de l'Agriculture. Paris.
- Min. Ganad. Agric. Uruguay Dir. Agron.** Ministerio de Ganadería y Agricultura. Dirección de Agronomía. Montevideo.
- Miner. Mag.** The Mineralogical Magazine and Journal of the Mineralogical Society. London.
- Minn. Agric. Expt. Sta. Bull.** Minnesota Agricultural Experiment Station. Bulletin. St. Paul.
- Minn. Agric. Expt. Sta. Tech. Bull.** Minnesota Agricultural Experiment Station. Technical Bulletin. St. Paul.
- Minn. Farm Home Sci.** Minnesota Farm and Home Science. Minnesota Agricultural Experiment Station. St. Paul.
- Miss. Agric. Expt. Sta. Bull.** Mississippi Agricultural Experiment Station. Bulletin. State College, Miss.
- Miss. Agric. Expt. Sta. Circ.** Mississippi Agricultural Experiment Station. Circular. State College, Miss.
- Miss. Agric. Expt. Sta. Inf. Sheet.** Mississippi Agricultural Experiment Station. Information Sheet. State College, Miss.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Miss. Agric. Expt. Sta. Service Sheet.** Mississippi Agricultural Experiment Station. Service Sheet. State College, Miss.
- Miss. Farm Res.** Mississippi Farm Research. State College, Miss.
- Missouri Agric. Expt. Sta. Bull.** Missouri Agricultural Experiment Station. Bulletin. Columbia, Mo.
- Missouri Agric. Expt. Sta. Circ.** Missouri Agricultural Experiment Station. Circular. Columbia, Mo.
- Missouri Agric. Expt. Sta. Res. Bull.** Missouri Agricultural Experiment Station. Research Bulletin. Columbia, Mo.
- Mitt. Landw.** Mitteilungen der Landwirtschaft. Berlin.
- Mitt. Lebensm. Hyg.** Mitteilungen aus dem Gebiet der Lebensmitteluntersuchung und Hygiene. Bern.
- Mitt. Reichinst. Auslând. Koloniale Forstwirt.** Mitteilungen des Reichsinstituts für Ausländische Koloniale Forstwirtschaft.
- Mitt. Schweiz. Anst. Forstl. Versuchsw.** Mitteilungen der Schweizerischen Anstalt für das Forstliche Versuchswesen. Zurich.
- Mo. Bull. Agric. Sci. Pract.** Monthly Bulletin of Agricultural Science and Practice. Rome.
- Mo. Crop. Rept. Agric. Stat.** Monthly Crop Report and Agricultural Statistics. Rome.
- Mod. Fmg.** Modern Farming. London.
- Monog. Sta. Lab. Rech. Agron.** Monographies publiées par les Stations et Laboratoires de Recherches Agronomiques. Paris.
- Mont. Agric. Expt. Sta. Bull.** Montana State College. Agricultural Experiment Station. Bulletin. Bozeman, Mont.
- Mont. Agric. Expt. Sta. War Circ.** Montana State College. Agricultural Experiment Station. War Circular. Bozeman, Mont.
- Montes, Madrid.** Madrid.
- Mycologia.** Lancaster, Pa.
- N.C. Agric. Expt. Sta. Agron. Inf. Circ.** The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering. Agronomy Information Circular. Raleigh, N.C.
- N.C. Agric. Expt. Sta. Bull.** The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering. Bulletin. Raleigh, N.C.
- N.C. Agric. Expt. Sta. Rept.** The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering. Annual Report. Raleigh, N.C.
- N.C. Agric. Expt. Sta. Tech. Bull.** The Agricultural Experiment Station of the North Carolina State College of Agriculture and Engineering. Technical Bulletin. Raleigh, N.C.
- N. Dak. Agric. Expt. Sta. Bimo. Bull.** North Dakota Agricultural Experiment Station. Bimonthly Bulletin. Fargo, N. Dak.
- N. Dak. Agric. Expt. Sta. Bull.** North Dakota Agricultural Experiment Station. Bulletin. Fargo, N. Dak.
- N. Dak. Hist. Quart.** (Biol. Abs.)

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- N.-E. Wood Util. Counc. Bull.** Northeastern Wood Utilization Council. Bulletin. New Haven, Conn.
- N.H. Agric. Expt. Sta. Bull.** New Hampshire Agricultural Experiment Station. Bulletin. Durham, N.H.
- N.H. Agric. Expt. Sta. Rept.** New Hampshire Agricultural Experiment Station. Annual Report. Durham, N.H.
- N.H. Agric. Expt. Sta. Tech. Bull.** New Hampshire Agricultural Experiment Station. Technical Bulletin. Durham, N.H.
- N. Ireland Min. Agric. Mo. Rept.** Government of Northern Ireland Ministry of Agriculture. Monthly Report. Belfast.
- N. J. Agric.** New Jersey Agriculture. New Brunswick, N.J.
- N.J. Agric. Expt. Sta. Bull.** New Jersey Agricultural Experiment Station. Bulletin. New Brunswick, N.J.
- N.J. Agric. Expt. Sta. Circ.** New Jersey Agricultural Experiment Station. Circular. New Brunswick, N.J.
- N.J. St. Coll. Agric. Ext. Bull.** New Jersey State College of Agriculture. Extension Bulletin. Rutgers University, New Brunswick, N.J.
- N. Mex. Agric. Expt. Sta. Bull.** Agricultural Experiment Station. New Mexico College of Agriculture and Mechanic Art. Bulletin. State College, N. Mex.
- N. Mex. Agric. Expt. Sta. Press Bull.** Agricultural Experiment Station. New Mexico College of Agriculture and Mechanic Art. Press Bulletin. State College, N. Mex.
- N.-W. Front. Prov. Agric. Dept. Rept.** North-West Frontier Province Agricultural Department. Annual Report. Peshawar.
- N.-W. Miller.** North-Western Miller. Minneapolis.
- N.-W. Sci.** North - West Science. Cheney, Wash.
- N.Y. St. Agric. Expt. Sta. Bull.** New York State Agricultural Experiment Station. Bulletin. Geneva, N.Y.
- N.Y. St. Agric. Expt. Sta. Rept.** New York State Agricultural Experiment Station. Annual Report. Geneva, N.Y.
- N.Z. Dept. Agric. Rept.** New Zealand Department of Agriculture. Annual Report. Wellington.
- N.Z. Dept. Sci. Indust. Res. Bull.** New Zealand Department of Scientific and Industrial Research. Bulletin. Wellington.
- N.Z. Dept. Sci. Indust. Res. Rept.** "New Zealand Department of Scientific and Industrial Research. Annual Report. Wellington.
- N.Z. J. Agric.** New Zealand Journal of Agriculture. Wellington.
- N.Z. J. Forestry.** New Zealand Journal of Forestry. Wellington.
- N.Z. J. Sci. Tech.** New Zealand Journal of Science and Technology. Wellington.
- N.Z. Met. Serv.** New Zealand Meteorological Service. Wellington.
- N.Z. Soil Conserv. Rivers Contr. Counc. Bull.** New Zealand Soil Conservation and Rivers Control Council. Bulletin. Wellington.
- Natl. Agric. Res. Bur. China Spec. Pub.** The National Agricultural Research Bureau. Ministry of Agriculture and Forestry. Special Publication. Chungking, China.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Natl. Assoc. Hellenes in Great Britain.** National Association of the Hellenes in Great Britain.
- Natl. Geog. Mag.** National Geographical Magazine. Washington.
- Natl. Geol. Surv. China Soil Bull.** The National Geological Survey of China. Soil Bulletin. Peking.
- Natl. Geol. Surv. China Spec. Soils Pub.** The National Geological Survey of China. Special Soils Publication. Peking.
- Natl. Inst. Agric. Engng.** National Institute of Agricultural Engineering. Silsoe, Beds.
- Nature.** London.
- Naturwissenschaften.** Die Naturwissenschaften. Berlin.
- Neb. Agric. Expt. Sta. Bull.** Nebraska Agricultural Experiment Station. Bulletin. Lincoln, Neb.
- Neb. Agric. Expt. Sta. Rept.** Nebraska Agricultural Experiment Station. Annual Report. Lincoln, Neb.
- Neb. Agric. Expt. Sta. Res. Bull.** Nebraska Agricultural Experiment Station. Research Bulletin. Lincoln, Neb.
- Ned. Heide Maatsch.** Nederlandsche Heide maatschappij. Arnhem.
- Ned. Kruidk. Arch.** Nederlandsch Kruidkundig Archief. Leyden.
- Ned. Ulen-Fed. Middelharnis.** Nederlandsche Uien-Federatie (Netherlands Onion Association). Middelharnis.
- Neues Jahrb. Min. Geol.** Neues Jahrbuch für Mineralogie, Geologie und Paläontologie. Stuttgart.
- Nev. Agric. Expt. Sta. Bull.** Nevada Agricultural Experiment Station. Bulletin. Reno.
- New Phytol.** New Phytologist. Cambridge.
- Nigeria Agric. Dept. Rept.** Nigeria Agricultural Department. Annual Report. Lagos.
- Nord. JordbrForsk.** Nordisk Jordbrugsforskning. Copenhagen.
- Norden.** Tidsskrift for Landbruget-og dets Binaeringer i Troms Stift. Norden.
- Norrlands Skogsvårdsförbunds Förlag.** Stockholm.
- Norsk Geol. Tidsskr.** Norsk Geologisk Tidsskrift. Oslo.
- Norsk Landbr.** Norsk Landbruk. Oslo.
- Norsk VetTidsskr.** Norsk Veterinaertidsskrift. Oslo.
- Notes Farm.** Notes for Farmers. Issued by Department of Agriculture for Scotland. Edinburgh.
- Nova Scotia Fruit Grow. Assoc. Rept.** Nova Scotia Fruit Growers Association. Annual Report. Lawrence Town, Nova Scotia.
- Nuovo G. Bot. Ital.** Nuovo giornale botanico italiano (e Bollettino della Società botanica italiana). Firenze.
- Nutr. Abs.** Nutrition Abstracts and Reviews. Commonwealth Bureau of Animal Nutrition, The Reid Library, Rowett Institute, Aberdeen.
- Nutr. Bull.** Nutrition Bulletin. (China). Chengtu.
- Nyasaland Agric. Quart. J.** The Nyasaland Agricultural Quarterly Journal. Blantyre.
- Nyasaland Dept. Agric. Rept.** Nyasaland Department of Agriculture. Report. Zomba.
- Obst- u. Gem.-Verwert.** Obst- und Gemüse-Verwertungsin-
dustrie. Braunschweig.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Ohio Agric. Expt. Sta. Agron. Mimeo.** Ohio Agricultural Experiment Station. Agronomy Mimeograph. Wooster, Ohio.
- Ohio Agric. Expt. Sta. Bimo. Bull.** Ohio Agricultural Experiment Station. Bi-monthly Bulletin. Wooster, Ohio.
- Ohio Agric. Expt. Sta. Bull.** Ohio Agricultural Experiment Station. Bulletin. Wooster, Ohio.
- Ohio Agric. Expt. Sta. Spec. Circ.** Ohio Agricultural Experiment Station. Special Circular. Wooster, Ohio.
- Ohio J. Sci.** Ohio Journal of Science. Columbus, Ohio.
- Ohio St. Univ. Abs. Doct. Diss.** Ohio State University. Abstracts of Doctoral Dissertations. Columbus, Ohio.
- Okla. Agric. Expt. Sta. Bull.** Oklahoma Agricultural Experiment Station. Bulletin. Stillwater, Okla.
- Okla. Agric. Expt. Sta. Rept.** Oklahoma Agricultural Experiment Station. Report. Stillwater, Okla.
- Okla. Agric. Expt. Sta. Tech. Bull.** Oklahoma Agricultural Experiment Station. Technical Bulletin. Stillwater, Okla.
- Okla., Ga., Miss., S.C., Va. (Truck) Agric. Expt. Stas. S. Coop. Ser. Bull.** Oklahoma, Georgia, Mississippi, South Carolina, Virginia (Truck) Agricultural Experiment Stations. Southern Co-operative Service Bulletin.
- Oléagineux.** Revue mensuelle des matières grasses. Paris.
- Ontario Agric. Coll. Rept.** Ontario Department of Agriculture. Annual Report of the Ontario Agricultural College and Experimental Farm. Guelph, Ontario.
- Ontario Dept. Agric. Bull.** Ontario Department of Agriculture. Bulletin. Toronto.
- Ontario Soil Survey Report.** Ottawa.
- Opyt. Agron.** Opytnaia Agromia. Moscow.
- Orchard. N. Z.** Orchardists of New Zealand. Wellington.
- Oreg. Agric. Expt. Sta. Bull.** Agricultural Experiment Station. Oregon State Agricultural College. Bulletin. Corvallis, Oreg.
- Oreg. Agric. Expt. Sta. Circ.** Agricultural Experiment Station. Oregon State Agricultural College. Circular. Corvallis, Oreg.
- Oreg. Agric. Expt. Sta. Tech. Bull.** Oregon Agricultural Experiment Station. Technical Bulletin. Corvallis, Oreg.
- Osaka Munic. Res. Inst. Domest. Sci. Rept.** Osaka Municipal Research Institute. Domestic Science Report. Osaka.
- Österreich. Bot. Ztschr.** Österreichische Botanische Zeitschrift. Wien.
- Ovoshchevodstvo.** (Vegetable Culture.) (Merged with Sadovodstvo to form Sady i Ogorody.) Moscow.
- Oxford For. Mems.** Oxford Forestry Memoirs. Oxford.
- P.R. Agric. Expt. Sta. Bull.** Puerto Rico Agricultural Experiment Station. Bulletin. Rio Piedras, P.R.
- P.R. Agric. Expt. Sta. Circ.** Puerto Rico Agricultural Experiment Station. Circular. Rio Piedras, P.R.
- P.R. Agric. Expt. Sta. Rept.** Puerto Rico Agricultural Experiment Station. Annual Report. Rio Piedras, P.R.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- P.R. Inst. Trop. Agric. Rept.** Puerto Rico Institute of Tropical Agriculture. Annual Report.
- Pa. Agric. Expt. Sta. Bull.** Pennsylvania Agricultural Experiment Station. Bulletin. State College, Pa.
- Pa. St. Coll. Agric. Rept.** Pennsylvania State College of Agriculture. Annual Report. State College, Pa.
- Pa. St. Hort. Assoc. News.** Pennsylvania State Horticultural Association News. State College, Pa.
- Pacific Coast Nurseryman.** (Pacific Coast Association of Nurserymen). Portland, Oreg.
- Pacific Pulp Paper Indust.** Pacific Pulp and Paper Industry. Seattle, Wash.
- Pacific Sci.** Pacific Science. Honolulu.
- Palestine J. Bot.** Palestine Journal of Botany [(J) Jerusalem series; (R) Rehovoth series]. Jerusalem.
- Palestine Soil Conserv. Bd. Bull.** Government of Palestine Soil Conservation Board. Bulletin. Jerusalem.
- Pam. Zaklad. Bad. Drzew. Kórník.** Pamiętnik Zakładu Badania Drzew i Lasu, Wkórniku. [Diary of the Trees and Forest Research Institute, Kórník]. Kórník.
- Paper Tr. J.** Paper Trade Journal. New York and Chicago.
- Parasitica.** Gembloux, Belgium.
- Pedology.** Pedology (Pochvovedenie). Moscow.
- Pflanzenbau.** Pflanzenbau. Monatsschrift für den Gesamten Acker- und Pflanzenbau und das Pflanzenbauliche Versuchswesen. Leipzig.
- Phil. Mag.** London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science. London.
- Phosphorsäure.** Die Phosphorsäure. Berlin.
- Photogrammetric Engng.** (E.S.R.)
- Phys. Abs.** Science Abstracts. Section A. Physics Abstracts. London.
- Physiol. Rev.** Physiological Reviews. Baltimore, Md.
- Physis, B. Aires.** Physis. Revista de la Sociedad Argentina de Ciencias Naturales. Buenos Aires.
- Phytopath.** Phytopathology. Lancaster, Pa.
- Phytopath. Ztschr.** Phytopathologische Zeitschrift. Berlin.
- Pishchev. Prom.** Pishchevaia Promyshlennost' (Food Industry). Moscow.
- Plant. Chron.** Planters' Chronicle. Coonoor, Coimbatore, Madras.
- Plant Dis. Reprtr.** Plant Disease Reporter. Washington, D.C.
- Plant Physiol.** Plant Physiology. Lancaster, Pa.
- Planta.** Archiv für Wissenschaftliche Botanik. Berlin.
- Poljod. Znan. Smot.** Poljodjelska Znanstvena Smotra (Revisio Scientifica Agriculturae). Zagreb.
- Potasse.** La Potasse. Mulhouse.
- Priroda.** Priroda (Nature). Leningrad.
- Probl. Sovet. Pochvoved.** Problemy Sovetskogo Pochvovedenia (Problems of Soviet Soil Science). Moscow-Leningrad.
- Proc. Agric. Soc. Trin. Tob.** Proceedings of the Agricultural Society of Trinidad and Tobago. Port of Spain.
- Proc. Amer. Soc. Hort. Sci.** Proceedings of the American Society for Horticultural Science. Geneva, N.Y.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Proc. Amer. Soc. Sug. Beet Tech.** Proceedings American Society Sugar Beet Technologists. Longmont, Colo.
- Proc. Amer. Tung Oil Assoc.** American Tung Oil Association. Proceedings. Pensacola, Fla.
- Proc. Ann. Cong. S. Afric. Sug. Tech. Assoc.** Proceedings of the Annual Congress of the South African Sugar Technologists' Association. Durban.
- Proc. B.W.I. Sug. Tech.** Proceedings of the Meeting of British West Indies Sugar Technologists. Trinidad.
- Proc. Cocoa Res. Conf.** Report and Proceedings of the Cocoa Research Conference. London.
- Proc. Fla. Acad. Sci.** Proceedings of the Florida Academy of Sciences. Tallahassee, Fla.
- Proc. Fla. St. Hort. Soc.** Proceedings of the Florida State Horticultural Society. Deland, Fla.
- Proc. Helminth. Soc. Wash.** Proceedings of the Helminthological Society of Washington, D.C. U.S. Bur. of Plant Industry. Washington, D.C.
- Proc. Highw. Res. Bd. Wash.** Proceedings of the Highway Research Board, National Research Council, National Academy of Sciences. Washington, D.C.
- Proc. Indian Acad. Sci.** Proceedings of the Indian Academy of Sciences. Bangalore.
- Proc. Indian Sci. Cong.** Proceedings of the Indian Science Congress. Abstracts. Calcutta.
- Proc. Inst. Brit. Agric. Engrs.** Proceedings of the Institution of British Agricultural Engineers. London.
- Proc. Inst. Sewage Purif.** Proceedings of the Institute of Sewage Purification. Kew Gardens, Surrey.
- Proc. Iowa Acad. Sci.** Proceedings of the Iowa Academy of Science. Des Moines, Iowa.
- Proc. Lenin Acad. Agric. Sci.** Proceedings of the Lenin Academy of Agricultural Science. Leningrad.
- Proc. Linn. Soc. N.S.W.** The Proceedings of the Linnean Society of New South Wales. Sydney.
- Proc. Meetg. Sug. Tech. Brit. W. Indies.** Proceedings of the Meeting of Sugar Technologists. British West Indies Trinidad.
- Proc. N. Central Weed Control Conf.** Proceedings of the North Central Weed Control Conference. Des Moines, Iowa.
- Proc. N.H. Acad. Sci.** Proceedings of the New Hampshire Academy of Sciences.
- Proc. Natl. Acad. Sci. India.** Proceedings of the National Academy of Sciences, India. Allahabad.
- Proc. Natl. Joint Cttee. Fert. Appl.** Proceedings of the Annual Meeting of the National Joint Committee on Fertilizer Application. Washington.
- Proc. Ned. Akad. Wetensch. Amsterdam.** Proceedings of the Nederlandsche Akademie van Wetenschappen. Amsterdam.
- Proc. Netherlands Acad. Sci.** Proceedings of the Netherlands Academy of Sciences.
- Proc. Nutr. Soc.** Proceedings of the Nutrition Society. Cambridge.
- Proc. Ohio St. Hort. Soc.** Proceedings of the Ohio State Horticultural Society. Columbus, Ohio.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Proc. Okla. Acad. Sci.** Proceedings of the Oklahoma Academy of Science. Norman, Okla.
- Proc. Pa. Acad. Sci.** Proceedings of the Pennsylvania Academy of Science. Harrisburg, Pa.
- Proc. Queensland Soc. Sug. Cane Tech.** Proceedings of the Queensland Society of Sugar Cane Technologists. Brisbane.
- Proc. Roy. Inst.** Proceedings of the Royal Institution of Great Britain. London.
- Proc. Roy. Irish Acad.** Proceedings of the Royal Irish Academy. Dublin.
- Proc. Roy. Soc.** Proceedings of the Royal Society. London.
- Proc. Roy. Soc. Victoria.** Proceedings of the Royal Society of Victoria. Melbourne.
- Proc. S. Afric. Sug. Tech. Assoc.** Proceedings of the South African Sugar Technologists' Association. Durban.
- Proc. S. Dak. Acad. Sci.** Proceedings of the South Dakota Academy of Science. Vermillion, S. Dak.
- Proc. Silvicult. Conf. Dehra Dun.** Proceedings of the Silvicultural Conference, Dehra Dun. Calcutta.
- Proc. Soil Sci. Soc. Amer.** Proceedings of the Soil Science Society of America. Morgantown, W. Va.
- Proc. Soil Sci. Soc. Fla.** Proceedings of the Soil Science Society of Florida. Gainesville, Fla.
- Proc. Utah Acad. Sci.** Proceedings of the Utah Academy of Sciences, Arts and Letters. Provo, Utah.
- Proc. Wash. St. Hort. Assoc.** Proceedings of the Annual Meeting of the Washington State Horticultural Association. Pullman, Wash.
- Prog. Agric. Vitic.** Progrès Agricole et Viticole. Montpellier.
- Przeg. Chemicz.** Przeglądu Chemicznego. Warsaw.
- Pub. Centre Natl. Rech. Sci.** Publications du Centre National de la Recherche Scientifique. Algiers.
- Pub. Inst. Natl. Ét. Agron. Congo Belge Sér. Tech.** Publications de l'Institut National pour l'Étude Agronomique du Congo Belge (I.N.E.A.C.). Série Technique. Brussels.
- Pubs. Stas. Labs. Rech. Agron. Paris. (C.A.)**
- Punjab Forest Rec.** Punjab Forest Records. Lahore.
- Punjab Fruit J.** Punjab Fruit Journal.
- Punjab Irrig. Res. Inst. Res. Pub.** Punjab Irrigation Research Institute. Research Publications. Lahore.
- Quart. J. Forestry.** Quarterly Journal of Forestry. London.
- Quart. J. Roy. Met. Soc.** Quarterly Journal of the Royal Meteorological Society. London.
- Queensland Agric. J.** Queensland Agricultural Journal. Brisbane.
- Queensland Bur. Sug. Expt. Stas. Rept.** Queensland Bureau of Sugar Experiment Stations. Annual Report. Brisbane.
- Queensland J. Agric. Sci.** The Queensland Journal of Agricultural Science. Brisbane.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Quím. e Indust.** Química e Indústria. São Paulo.
- Química (Mex).** Revista Química. Mexico.
- R.A.E.** Review of Applied Entomology. Series A: Agricultural. London.
- R.A.M.** Review of Applied Mycology. Kew, England.
- R.I. Agric. Expt. Sta. Bull.** Agricultural Experiment Station of the Rhode Island State College. Bulletin. Kingston, R.I.
- R.I. Agric. Expt. Sta. Rept.** Agricultural Experiment Station of the Rhode Island State College. Annual Report. Kingston, R.I.
- Rech. Fert. Stas. Agron. Paris.** Recherches sur la Fertilisation Effectuées par les Stations Agronomiques. Rapport annuel. Paris.
- Rehovot Agric. Res. Sta. Bull.** See Palestine J. Bot. (R) from which the Bulletin is usually reprinted.
- Rept. Fruit Veg. Pres. Sta. Campden.** Annual Report of the Fruit and Vegetable Preservation Research Station. Campden. The University of Bristol. Campden.
- Rept. Geol. Soil Surv. Fukien.** Annual Report of the Geological Soil Survey of Fukien. Yungan, Fukien.
- Rept. Quebec Soc. Prot. Pl.** Report of the Quebec Society for the Protection of Plants. Quebec.
- Rept. Rothamsted Expt. Sta.** Report of the Rothamsted Experimental Station. Harpenden.
- Res. and Farm.** Research and Farming. Raleigh, N.C.
- Rev. Agric. Afr. Nord.** Revue Agricole de l'Afrique du Nord. Algiers.
- Rev. Agric. Cuba.** Revista de Agricultura. Havana, Cuba.
- Rev. Agric. Guatemala.** Revista Agrícola. Guatemala.
- Rev. Agric. Haiti.** Revue Agricole d'Haiti. Port-au-Prince.
- Rev. Agric. Maurice.** Revue Agricole de l'Île Maurice. Port Louis, Mauritius.
- Rev. Agric. P.R.** Revista de Agricultura de Puerto Rico. San Juan, P.R.
- Rev. Agric. Piracicaba.** Revista de Agricultura. Piracicaba, Brazil.
- Rev. Agric. S. Paulo.** Revista de Agricultura. São Paulo.
- Rev. Argent. Agron.** Revista Argentina de Agronomía. Buenos Aires.
- Rev. Bot. Appl.** Revue de Botanique Appliquée et d'Agriculture Tropicale. (Now Revue Internationale de Botanique Appliquée et d'Agriculture Tropicale). Paris.
- Rev. Brasil. Quím.** Revista Brasileira de Química (Ciência & Indústria). São Paulo.
- Rev. Dep. Nac. Café (D.N.C.)**
- Rio de J.** Revista do Departamento Nacional de Café. Rio de Janeiro.
- Rev. Eaux et Forêts.** Revue des Eaux et Forêts. Paris.
- Rev. Fac. Agron. B. Aires.** Revista de la Facultad de Agronomía y Veterinaria. Buenos Aires.
- Rev. Fac. Agron. Bogotá.** Revista de la Facultad de Agronomía Bogotá. Bogotá.
- Rev. Fac. Agron. Univ. Montevideo.** Revista de la Facultad de Agronomía. Universidad de la República. Montevideo.
- Rev. Fac. Med. Vet. São Paulo.** Revista da Faculdade de Medicina Veterinária. Universidade de São Paulo.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Rev. Gén. Sci.** Revue Générale de Sciences Pures et Appliquées. Paris.
- Rev. Geofis.** Revista de Geofísica. Madrid.
- Rev. Hort. (Paris).** Revue Horticole. Paris.
- Rev. Hort. Suisse.** Revue Horticole et Viticole de la Suisse Romande. Geneva.
- Rev. Inst. Def. Café Costa Rica.** Revista del Instituto de Defensa del Café del Costa Rica. San José.
- Rev. Int. Bot. Appl.** Revue Internationale de Botanique Appliquée et d'Agriculture Tropicale. (Formerly Revue de Botanique Appliquée et d'Agriculture Tropicale). Paris.
- Rev. Int. Prod. Colon.** Revue Internationale des Produits Coloniaux. Paris.
- Rev. Inter. Indagr.** Revue Internationale des Industries Agricoles. Paris.
- Rev. Min. Agric. Cuba.** Revista. Ministerio de Agricultura, Comercio y Trabajo, Cuba. Havana.
- Rev. Vitic.** Revue de Viticulture. Paris.
- Rhod. Agric. J.** Rhodesia Agricultural Journal. Salisbury.
- Ric. Ossvz. Dèvulg. Fitopat. Campania ed Mezzogiorno Portici.** Ricerche, osservazioni e divulgazioni fitopatologiche, per la Campania ed il Mezzogiorno. Portici.
- Rice J.** Rice Journal. New Orleans.
- RijkslandbProefsta. Akker-en Weideb. Groningen.** Rijkslandbouwprefstation voor den Akker-enWeidebouw te Groningen. The Hague.
- RijkslandbProefsta. Bodemk. Inst. Groningen.** Rijkslandbouwprefstation en Bodemkundig Instituut te Groningen. The Hague.
- RijkslandbProefsta. Groningen.** Rijkslandbouwprefstation, Groningen. The Hague.
- Riv. Forest. Ital.** La Rivista Forestale Italiana. Rome.
- Rocz. Nauk Roln.** Rocznik Nauk Rolniczych i Lesnych. Posen.
- Roy. Inst. Chem.** The Royal Institute of Chemistry of Great Britain and Ireland. London.
- Rubber Res. Scheme (Ceylon) Adv. Circ.** Rubber Research Scheme (Ceylon). Advisory Circular. Colombo.
- Rural Educ. Bull. Lincoln Coll. N.Z.** Rural Education Bulletin, Lincoln College, New Zealand.
- S. Afric. J. Sci.** South African Journal of Science. Johannesburg.
- S. Afric. Mining Engng. J.** The South African Mining and Engineering Journal. Johannesburg.
- S. Afric. Sug. J.** South African Sugar Journal. Durban.
- S. Africa Dept. Agric. Bull.** Union of South Africa. Department of Agriculture and Forestry. Bulletin. Pretoria.
- S. Africa Dept. Agric. Forestry.** Union of South Africa, Department of Agriculture and Forestry. Pretoria.
- S. Africa Dept. Agric. Sci. Bull.** Union of South Africa. Department of Agriculture and Forestry. Science Bulletin. Pretoria.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- S. G. Agric. Expt. Sta. Bull.** South Carolina Agricultural Experiment Station. Bulletin. Clemson College, S.C.
- S. Coop. Ser. Bull.** Southern Cooperative Service Bulletin. Ga. and N.C. Agric. Expt. Stations.
- S. Dak. Agric. Expt. Sta. Bull.** South Dakota Agricultural Experiment Station. Bulletin. Brookings.
- S. Dak. Agric. Expt. Sta. Tech. Bull.** South Dakota Agricultural Experiment Station. Technical Bulletin. Brookings.
- Sborn. České Akad. Zeméd.** Sborník České Akademie Zemédělské. (Annals of the Czech Academy of Agriculture). (Formerly Sborník Československé Akademie Zemédělské.) Prague.
- Sborn. Čsl. Akad. Zeméd.** Sborník Československé Akademie Zemédělské. (Annals of the Czechoslovak Academy of Agriculture.) (Now Sborník České Akademie Zemédělské.) Prague.
- Sborn. Kl. Pfir. Brně.** Sborník Klubu Přirodovědeckého v Brně. Brno.
- Sborn. Rab. Agronom. Fiz.** Sborník Rabot po Agronomicheskoe Fiziki. (Collection of Papers on Agronomical Physics.) Moscow.
- Sborn. Výzkum. Ústavu Zeméd.** Sborník Výzkumných Ústavu Zemédělských Republik Československé. (Recueil de Travaux des Instituts des Recherches Agronomiques de la République Tchecoslovaque.) Prague.
- School Sci. Rev.** The School Science Review. London.
- Schweiz. Landw. Monatsh.** Schweizerische Landwirtschaftliche Monatshefte. Bern.
- Schweiz. Ztschr. Biochem.** Schweizerische Zeitschrift für Biochemie. Bern.
- Schweiz. Ztschr. Forstw.** Schweizerische Zeitschrift für Forstwesen. Bern.
- Schweiz. Ztschr. Obst- u. Weinb.** Schweizerische Zeitschrift für Obst- und Weinbau. Wädenswil.
- Sci. Agric.** Scientific Agriculture. Ottawa.
- Sci. Counselor.** Science Counselor. Pittsburg, Pa.
- Sci. Mo.** The Scientific Monthly. New York.
- Sci. Prog.** Science Progress in the Twentieth Century. London.
- Sci. Repts. Imp. Agric. Res. Inst.** Science Reports of the Imperial Agricultural Research Institute. New Delhi.
- Sci. Serv. Dept. Agric. Ottawa Rept.** Science Service, Dominion Department of Agriculture, Ottawa, Report. Ottawa.
- Science.** Baltimore.
- Science and Culture.** Calcutta.
- Scot. Agric.** Scottish Agriculture. (Formerly Scottish Journal of Agriculture). Edinburgh.
- Scot. Forestry J.** Scottish Forestry Journal. Edinburgh.
- Scot. Geog. Mag.** Scottish Geographical Magazine. Edinburgh.
- Scot. J. Agric.** Scottish Journal of Agriculture. (Now Scottish Agriculture). Edinburgh.
- Secretaria da Agric. S. Paulo.** Secretaria da Agricultura, Indústria e Comércio do Estado de São Paulo.
- Serv. Bot. Agron., Tunisie.** Annales du Service Botanique et Agronomique. Tunis.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Serv. Inform. Agric. Min.** **Agric. Brasil.** Ministerio da Agricultura. Serviço de Informação Agrícola. Rio de Janeiro.
- Serv. Rech. Agron. Oujda.** Service de la Recherche Agonomique et de l'Expérimentation Agricole et Services Agricoles Régionaux d'Oujda. Rabat, Morocco.
- Sewage Works Engng. Munic. Sanit.** Sewage Works Engineering and Municipal Sanitation. New York.
- Sewage Works J.** Sewage Works Journal. Lancaster, Pa.
- Skogen.** Stockholm.
- Skogsodling-Föredrag.** Skogsodling-Föredrag, hållna vid skogsodlingskursen å skogshögskolan den 23-26 april, 1945. Stockholm.
- Smithson. Instn. Rept.** Smithsonian Institution. Annual Report. Washington, D.C.
- Socker Handl.** Socker. Svenska Sockerfabriks Aktiebolagets Skrifter. Handlingar. (Communications from the Swedish Sugar Corporation.) Malmö.
- Soil Conservation.** Washington, D.C.
- Soil Rept. Geol. Soil Surv. Fukien.** Soil Report of the Geological and Soil Survey of Fukien. Yungan, Fukien.
- Soil Res.** Soil Research. Berlin.
- Soil Sci.** Soil Science. Baltimore, Md.
- Soils and Fertil.** Soils and Fertilizers. Harpenden.
- Soils Quart.** Soils Quarterly (China). Pehpei, Chungking.
- Sotsial. Zemled.** Sotsialisticheskoe Zemledelie (Socialist Agriculture). Moscow.
- Sovet. Agron.** Sovetskaia Agronomiia. (Soviet Agronomy). Moscow.
- Sovet. Bot.** Sovetskaia Botanika (Soviet Botany). Moscow.
- Soybean Digest.** Hudson, Iowa.
- Sta. Chim.-Agrar. Sper. Roma Pub.** R. Stazione Chimico-Agraria Sperimentale di Roma. Pubblicazione. Rome.
- Sta. Féd. Vit. Arb. Chim. Agric. Lausanne Rapp.** Stations Fédérales d'essais viticoles, arboricoles et de chimie agricole, à Lausanne et à Pully. Rapport. Berne.
- Statens Forsøgsvirks. Plante-kult. Medd.** Statens Forsøgsvirksomhed i Plante-kulture. Meddelelse. Copenhagen.
- Success. Fmg.** Successful Farming. Des Moines, Ia.
- Sucr. Belge.** La Sucrerie Belge. Brussels.
- Sudan Govt. Soil Conserv. Cttee. Rept.** Sudan Government Soil Conservation Committee. Report.
- Suelo Argentino.** Buenos Aires.
- Sug. Beet J.** Sugar Beet Journal. Saginaw, Mich.
- Sug. Bull.** Sugar Bulletin. New Orleans, La.
- Sug. J.** Sugar Journal and Tropical Cultivator. Mackay, Queensland.
- Sug. Prod. Assoc. Brit. Guiana.** The Sugar Producers' Association of British Guiana. Georgetown.
- Sugar.** Sugar (Including Facts about Sugar, The Planter and Sugar Manufacture). Hoboken, N.J.
- Sun Yat-Sen Univ. Coll. Agric. Soil Bull.** College of Agriculture. Sun Yat-Sen University. The Soil Survey Office. Soil Bulletin. Canton.
- Surveyor.** London.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Svensk Geog. Årsb.** Svensk Geografisk Årsbok. Lund.
- Svensk Jordbr. Forsk. Årsb.** Svensk Jordbruks Forskning Årsbok. Stockholm.
- Svenska SkogsvFören. Tidskr.** Svenska Skogsvårdsföreningens Tidskrift. Stockholm.
- Svenska Vall- o. MosskFören. Kvartalsskr.** Svenska Vall- och Mosskulturföreningens Kvartalsskrift. Uppsala.
- Svenska Vall- o. MosskFören. Medd.** Svenska Vall- och Mosskulturföreningens Meddelanden. Uppsala.
- Sverig. Geol. Unders. Årsb.** Sveriges Geologiska Undersökning. Årsbok. Stockholm.
- Sverig. Hand. Trädgårdsmäst. Förb. Jubil. Skr. jämte. Årsbok.** Sveriges Handelsträdgårdsmästareförbunds Jubileumsskrift jämte Årsbok. Stockholm.
- Sverig. Utsädesfören. Tidskr.** Sveriges Utsädesförenings Tidskrift. Svalof.
- Swaziland Dept. Agric. Native Land Settlement Rept.** Swaziland Department of Agriculture Native Land Settlement. Annual Report. Mbadane, Swaziland.
- Swaziland Vet. Agric. Dept. Rept.** Swaziland Veterinary and Agricultural Department. Annual Report.
- Sylva.** (Edinburgh University Forestry Society). Edinburgh.
- Symb. Bot. Upsaliens.** Symbolae Botanicae Upsalienses. Arbeten från Botaniska Institutionen i Uppsala. Uppsala.
- Szechwan Agric. Impr. Inst. Circ.** Szechwan Provincial Agricultural Improvement Institute. Circular.
- Szechwan Agric. Impr. Inst. Spec. Soils Bull.** Szechwan Agricultural Improvement Institute. Special Soils Bulletin.
- Tabac.** Le Tabac. Bulletin d'Information et de Documentation du Centre International du Tabac. Rome.
- Tabak.** Der Tabak. Wissenschaftliche Zeitschrift der Internationalen Tabakwissenschaftlichen Gesellschaft. Zeitschrift für Tabakanbau, Tabakverarbeitung, Tabak- und Tabakwaren-Handel. Berlin.
- Taiwan Agric. Res. Inst. Tech. Bull.** Taiwan Agricultural Research Institute. Technical Bulletin. Taipei, Taiwan.
- Tanganyika Dept. Agric. Pamph.** Tanganyika Department of Agriculture. Pamphlet. London and Dar-es-Salaam.
- Tanganyika Dept. Agric. Sisal Expt. Sta. Rept.** Tanganyika Department of Agriculture Sisal Experiment Station. Report. Dar-es-Salaam.
- Tanganyika Rept. Dept. Agric.** Department of Agriculture, Tanganyika Territory. Report. London and Dar-es-Salaam.
- Tasm. J. Agric.** Tasmanian Journal of Agriculture. Hobart.
- Tea Quart.** The Tea Quarterly. The Journal of the Tea Research Institute of Ceylon. St. Coombs, Talawakelle.
- Tea Res. Inst. Ceylon Rept.** Tea Research Institute of Ceylon. Annual Report. St. Coombs, Talawakelle.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Tech. GemBl.** Technisches Gemeindeblatt für Strassenbau, Landesplanung, Siedlungswesen, Städtebau, Wasserversorgung und Entwässerung. Berlin.
- Tech. Inf. Sect. Dev. Res. Dept. Mond Nickel Co.** Technical Information Section, Development and Research Department, The Mond Nickel Co. Ltd.
- Tectona.** Tectona. Bosch-bouwkundig Tijdschrift. Buitenzorg.
- Tenn. Agric. Expt. Sta. Bull.** Tennessee Agricultural Experiment Station. Bulletin. Knoxville, Tenn.
- Tenn. Agric. Expt. Sta. Circ.** Tennessee Agricultural Experiment Station. Circular. Knoxville, Tenn.
- Terre d'Oc.** La Terre d'Oc. Revue Moderne d'Agriculture. Vic-Fezensac, Gers.
- Tex. Agric. Expt. Sta. Bull.** Texas Agricultural Experiment Station. Bulletin. College Station, Texas.
- Tex. Agric. Expt. Sta. Circ.** Texas Agricultural Experiment Station. Circular. College Station, Texas.
- Tex. Agric. Expt. Sta. Prog. Rept.** Texas Agricultural Experiment Station. Progress Report. College Station, Tex.
- Tharandt. Jahrb.** Tharandter Forstliches Jahrbuch. Berlin.
- Tidsskr. Lantm.** See Lantman-nen, Svenskt Land.
- Tidsskr. Kjemi. Met.** Tidsskrift for Kjemi og Bergvesen og Metallurgi. (Formerly Tidsskrift for Kjemi og Bergvesen.) Oslo.
- Tidsskr. Landekon.** Tidsskrift for Landøkonomi. Copenhagen.
- Tidsskr. Norske Landbr.** Tidsskrift for det Norske Landbruk. Oslo.
- Tidsskr. Planteavl.** Tidsskrift for Planteavl. Copenhagen.
- Tiende Nacobrouw Jaarb.** Tiende Nacobrouw Jaarboekje. Groningen.
- Tijdschr. Ned. Heidemaatsch.** Tijdschrift der Nederlandsche Heidemaatschappij. Utrecht.
- Tijdschr. Nederl. Aardrijkskund. Gen.** Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap. Amsterdam.
- Tijdschr. PZiekt.** Tijdschrift over Plantenziekten. Wageningen.
- Tocklai Expt. Sta. Rept.** Indian Tea Association, Scientific Department, Tocklai Experimental Station. Annual Report. Calcutta.
- Trans. Amer. Geophys. Un.** Transactions of the American Geophysical Union. Washington, D.C.
- Trans. Bose Res. Inst.** Transactions of the Bose Research Institute. Calcutta.
- Trans. Bot. Soc. Edinburgh.** Transactions and Proceedings of the Botanical Society of Edinburgh.
- Trans. Brit. Mycol. Soc.** Transactions of the British Mycological Society. London.
- Trans. Ceram. Soc.** Transactions of the Ceramic Society. (Now Transactions of the British Ceramic Society). Tunstall.
- Trans. Dokuchaev Soil Inst.** Transactions of the Dokuchaev Soil Institute. (Trudy Pochvennogo Instituta imeni V. V. Dokuchaeva.) Leningrad.
- Trans. Highl. Agric. Soc. Scot.** Transactions of the Highland and Agricultural Society of Scotland. Edinburgh.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Trans. Inst. Rubber Indust.** Transactions of the Institute of Rubber Industry. London.
- Trans. Inst. Water Engrs.** Transactions of the Institution of Water Engineers. London.
- Trans. Kans. Acad. Sci.** Transactions of the Kansas Academy of Science. Manhattan, Kans.
- Trans. Peninsula Hort. Soc.** Transactions of the Peninsula Horticultural Society. Newark, Del.
- Trans. Roy. Soc. N.Z.** Transactions and Proceedings of the Royal Society of New Zealand. Wellington.
- Trans. Roy. Soc. S. Africa.** Transactions of the Royal Society of South Africa. Cape Town.
- Trans. Roy. Soc. S. Aust.** Transactions of the Royal Society of South Australia. Adelaide.
- Trans. Tex. Acad. Sci.** Transactions of the Texas Academy of Science. Austin.
- Trans. Wis. Acad. Sci.** Transactions of the Wisconsin Academy of Sciences, Arts and Letters. Madison.
- Trav. Inst. Rech. Sahariennes.** Travaux de l'Institut de Recherches Sahariennes. Algiers.
- Trav. Sect. Tech. Agric. Trop.** 1^{re} Sér. Min. Colon. France. Travaux de la Section Technique d'Agriculture Tropicale (1^{re} Série). Ministère des Colonies. Paris.
- Trees.** Cleveland, Ohio.
- Trin. Sug.-Cane Investg. Cttee. Rept.** The Sugar-Cane Investigation Committee. Trinidad. Annual Report. Port-of-Spain, Trin.
- Trop. Agric. Trin.** Tropical Agriculture. The Journal of the Imperial College of Tropical Agriculture. St. Augustine, Trin.
- Trop. Agricst.** Tropical Agriculturist. The Agricultural Journal of Ceylon. Peradeniya.
- Trudy Inst. Les. Khoz.** See Trudy VNIILKh.
- Trudy Lab. Phys. Pochv.** Trudy Laboratorii Fiziki Pochv. (Transactions of the Laboratory of Soil Physics.) Leningrad.
- Trudy Molotovsk. Gosud. S.-Kh. Inst.** Trudy Molotovskogo Gosudarstvennogo Selskokhoziastvennogo Instituta. (Transactions of the Molotov State Institute of Agriculture.) Molotov.
- Trudy S.-Kh. Akad. Timiriazeva.** Trudy Selsko-Khoziastvennoi Akademii imeni Timiriazeva. (Transactions of the Timiriazev Agricultural Academy.) Moscow.
- Trudy VNIILKh.** Trudy Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Lesnogo Khoziastva. (Transactions of the State Forest Research Institute.)
- Tucumán Esta. Expt. Agric. Bol.** Tucumán Estación Experimental Agrícola. Bolentin. Tucumán, Argentina.
- Tucumán Esta. Expt. Agríc. Circ.** Tucumán Estación Experimental Agrícola. Circular. Tucumán, Argentina.
- Tuinbouwtijdschrift.** De Tuinbouw. 's-Gravenhage.
- U.S. Bur. Mines Bull.** United States Bureau of Mines. Bulletin. Washington, D.C.
- U.S.D.A. Bibl. Bull.** United States Department of Agriculture. Bibliographical Bulletin. Washington, D.C.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- U.S.D.A. Bur. Agric. Econ. F.M.** United States Department of Agriculture. Bureau of Agricultural Economics. Farm Management. Washington, D.C.
- U.S.D.A. Bur. Agric. Indust. Chem.** United States Department of Agriculture. Bureau of Agricultural and Industrial Chemistry. Washington, D.C.
- U.S.D.A. Circ.** United States Department of Agriculture. Circular. Washington, D.C.
- U.S.D.A. Farm. Bull.** United States Department of Agriculture. Farmers' Bulletin. Washington, D.C.
- U.S.D.A. Forest Serv. Misc. Pub.** United States Department of Agriculture Forest Service. Miscellaneous Publication. Washington, D.C.
- U.S.D.A. Libr. List.** United States Department of Agriculture. Library List. Washington, D.C.
- U.S.D.A. Misc. Pub.** United States Department of Agriculture. Miscellaneous Publication. Washington, D.C.
- U.S.D.A. Off. Foreign Agric. Relat.** United States Department of Agriculture. Office of Foreign Agricultural Relations. Washington, D.C.
- U.S.D.A. Soil Conserv. Serv.** United States Department of Agriculture. Soil Conservation Service. Washington, D.C.
- U.S.D.A. Soil Conserv. Serv. Phys. Land Survey.** United States Department of Agriculture. Soil Conservation Service Physical Land Survey. Washington, D.C.
- U.S.D.A. Tech. Bull.** United States Department of Agriculture. Technical Bulletin. Washington, D.C.
- U.S. Geol. Surv., Prof. Pap.** United States Department of the Interior, Geological Survey, Bulletins, Circulars, Professional Papers and Water Supply Papers. Washington, D.C.
- Uchen. Zap. Kazan. Gosud. Univ.** Uchenie Zapiski Kazanskogo Gosudarstvennogo Universiteta imeni V.I. Ul'yanova-Lenina. (Scientific Memoirs of the University of Kazan). Kazan.
- Uchen. Zap., Pochvovedenie.** Uchenie Zapiski M.V. Lomonosova. Pochvovedenie. Scientific Memoirs of the Moscow Order of Lenin State University. Pedology. Moscow.
- Uganda Dept. Agric. Rept.** Uganda Protectorate. Annual Report of the Department of Agriculture. Uganda.
- Univ. Alberta Fac. Agric. Bull.** University of Alberta, Faculty of Agriculture. Bulletin. Edmonton.
- Univ. Camb. Sch. Agric. Mem.** University of Cambridge School of Agriculture Memoir. Cambridge.
- Univ. Colo. Stud.** University of Colorado Studies. Boulder, Colo.
- Univ. Microfilm Abs.** Microfilm Abstracts. Universities Microfilms. Ann Arbor, Mich.
- Univ. Saskatchewan Soil Surv. Rept.** Soil Survey Reports. University of Saskatchewan College of Agriculture. Saskatoon.
- Univ. Sydney Pub. Bot. Sch.** University of Sydney. Publications of the Botany School.
- Univ. Witwatersrand, Botany Dept.** University of Witwatersrand, Botany Department. Johannesburg.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Utah Agric. Expt. Sta. Bull.** Utah Agricultural Experiment Station. Bulletin. Logan, Utah.
- Utah Agric. Expt. Sta. Circ.** Utah Agricultural Experiment Station. Circular. Logan, Utah.
- Utah Intern. For. Range Sta. Res. Pap.** Utah Intermountain Forest and Range Experimental Station. Research Paper.
- Va. Acad. Sci. Proc.** Virginia Academy of Science. Proceedings. Richmond, Va.
- Va. Agric. Expt. Sta. Bull.** Virginia Agricultural Experiment Station. Bulletin. Blacksburg, Va.
- Va. Fruit.** Virginia Fruit. Staunton, Va.
- Valt. Maatalousk. Julk.** Valtion Maatalouskoetöiminnan Julkaisuja. Helsinki.
- Växodling. Plant Husbandry.** Skrifter Från Institutionen För Växodlingslära Vid Kungl. Lantbrukshögskolan. Publications from the Institute of Plant Husbandry (Crop Production) of the Royal Agricultural College of Sweden. Uppsala.
- Veg. Growers Assoc. Am. Rept.** Vegetable Growers Association, America. Annual Report. Worthington, Ohio.
- Versl. Bodemk. Inst. Groningen.** Verslagen van Landbouwkundige Onderzoekingen. A. Rijkslandbouwproefstation en Bodemkundig Instituut Groningen. The Hague.
- Versl. Inst. Onderz. Verw. Fruit.** Verslagen van het Instituut voor Onderzoek op het Gebied van Verwerking van Fruit en Groenten. Wageningen.
- Versl. Landbouwk. Onderzoek.** Verslagen van Landbouwkundige Onderzoekingen der Rijkslandbouwproefstations. The Hague.
- Versl. Nederl. Akad. Wetensch. Afd. Natuurkunde.** Verslagen Nederlandsche Akademie van Wetenschappen. Afdeling Natuurkunde. Amsterdam.
- Versl. Rijkslandb. Proefsta. Groningen.** Verslagen van Landbouwkundige Onderzoekingen, Rijkslandbouwproefstation te Groningen. The Hague.
- Vest. Akad. Nauk S.S.S.R.** Vestnik Akademii Nauk S.S.S.R. Moscow.
- Věst. Čsl. Akad. Zeměd.** Věstník Československé Akademie Zemědělské (Bulletin of the Czechoslovak Academy of Agriculture). Prague.
- Věst. Královské České Společnosti Nauk.** Věstník Královské České Společnosti Nauk. Prague.
- Vest. S.-Kh. Nauk. Ovosh. Kartof.** Vestnik Selsk Khoziaistvennoi Nauki. Ovoshchevodstvo i Kartofel. Moscow.
- Vest. Sotsial. Rast.** Vestnik Sotsialisticheskogo Rastenievodstva. (Bulletin of Socialist Plant Industry). Moscow.
- Vest. Udob. Agrotekh. Agr. pochvoved.** Věstník Selsk Khoziaistvennoi Nauki (Udobrenie, Agrotechnika, Agropochvovedenie). (Bulletin of Agricultural Science, Fertilizers, Agrotechnique and Agro-Soil Science). Moscow.
- Victoria Dept. Agric. Tech. Bull.** Department of Agriculture. Victoria. Technica Bulletin. Melbourne.
- Vie Agric. Rur. Vie Agricole et Rurale.** Paris.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Vsesoluz. Nauch.-Issled. Inst. Bolot. Khoz. Sel'skokhoz. Osvoenie Bolot. Rept.** Vsesoiuzny Nauchno-Issledovatel'sky Institut Bolotnogo Khoziastva Sel'skokhoziastvennoe Osvoenie Bolot. (All-Union Scientific Experimental Institute of Swamp Husbandry. Agricultural Reclamation of Swamps.) Report. Minsk.
- Vt. Agric. Expt. Sta. Bull.** Vermont Agricultural Experiment Station. Bulletin. Burlington, Vt.
- Vt. Coll. Agric. Rept.** Vermont College of Agriculture. Annual Report. Burlington, Vt.
- W. Afric. Cacao Res. Inst. Rept.** West African Cacao Research Institute. Annual Report. Tafo, Gold Coast.
- W. Afric. Cacao Res. Inst. Quart. Rept.** West African Cacao Research Institute. Quarterly Report. Tafo, Gold Coast.
- W. China Border Res. Soc. J.** West China Border Research Society. Journal. Chengtu.
- W. Va. Agric. Expt. Sta. Bull.** West Virginia Agricultural Experiment Station. Bulletin. Morgantown, W. Va.
- Wallerstein Lab. Comm.** Wallerstein Laboratories Communications. New York.
- Wash. Agric. Expt. Sta. Bull.** State College of Washington. Agricultural Experiment Station. Bulletin. Pullman, Wash.
- Wass. u. Abwass.** Wasser und Abwasser. Berlin.
- Wein u. Rebe.** Wein und Rebe. Illustrierte Monatshefte für Kellervirtschaft und Weinbau. Mainz, Germany.
- Welsh J. Agric.** Welsh Journal of Agriculture. Cardiff.
- Westminster Bank Rev.** Westminster Bank Review. London.
- Wis. Agric. Expt. Sta. Bull.** Agricultural Experiment Station of the University of Wisconsin. Bulletin. Madison, Wis.
- Wis. Agric. Expt. Sta. Res. Bull.** Agricultural Experiment Station of the University of Wisconsin. Research Bulletin. Madison, Wis.
- Worces. Agric. Chron.** Worcestershire County Council Agricultural Quarterly Chronicle. Worcester.
- Wyo. Agric. Expt. Sta. Bull.** Wyoming University Agricultural Experiment Station. Bulletin. Laramie, Wyo.
- Yrbk. Amer. Phil. Soc.** American Philosophical Society. Yearbook. Philadelphia.
- Zbl. Bakt.** Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten. Jena.
- Zeméd. Arch.** Zemédělsky Archiv. Prague.
- Zemed. Nauka.** Zemedelska Nauka (Agricultural Science). Sofia.
- Zeméd. Pokrok.** Zemédělsky Pokrok. Prague.
- Zh. Khim. Prom.** Zhurnal Khimicheskoi Promyshlennosti. (Journal of Chemical Industry.) Moscow.
- Zh. Prikl. Khim.** Zhurnal Prikladnoi Khimii. (Journal of Applied Chemistry.) Leningrad.
- Ztschr. Forst- u. Jagdw.** Zeitschrift für Forst- und Jagdwesen. Berlin.
- Ztschr. Gesam. Forstw.** Zeitschrift für das gesamte Forstwesen. Berlin.

ABBREVIATIONS OF JOURNALS AND PERIODICALS

- Ztschr. Kristallog.** Zeitschrift für Kristallographie. Leipzig.
- Ztschr. Pflanz. Düng.** Zeitschrift für Pflanzenernährung, Düngung und Bodenkunde. Berlin.
- Ztschr. PflKrank. PflSchutz.** Zeitschrift für Pflanzenkrankheiten und Pflanzenschutz. Stuttgart.
- Ztschr. Schweiz. Forstver. Beih.** Beiheft zu den Zeitschriften des Schweizerischen Forstvereins.
- Ztschr. Vitaminforsch.** Zeitschrift für Vitaminforschung. Zugleich Zentralblatt für Vitaminologie und verwandte Ernährungsprobleme. Bern.
- Ztschr. Weltforstw.** Zeitschrift für Weltforstwirtschaft. Berlin.
- Ztschr. Wirtschaftsgr. Zuckerindust.** Zeitschrift der Wirtschaftsgruppe Zuckerindustrie. Berlin.
- Ztschr. Zuckerindust. Čsl.** Zeitschrift für die Zuckerindustrie der Tschechoslowakischen Republik. Prague.
- Zuckerrübenbau** Hanover.

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